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# Annual Catalog 1922

"DIAMOND QUALITY"  
TESTED

# SEEDS



PORLAND  
SEED CO.  
PORLAND, ORE.





**SERVICE**—In our various departments from fifty to one hundred competent men and women are actively engaged in serving our customers. Among these are practical experts, specially fitted by training and experience to confer with you on any subject pertaining to our business. Their suggestions or recommendations incur no obligation on your part, and may save you needless expense and disappointment. You should take advantage of this service.

**WHAT OUR DIAMOND TRADE MARK STANDS FOR.** By reason of our business standing and the experience gained by a quarter century of success in serving the growers of the Northwest, we have established trade relations with the world's best producers and sources of supply. Only by such connections is it possible, in the seed trade, to obtain the select true stocks—the best of the season's production; and when you see our DIAMOND Trade Mark on your packet of seeds or item of merchandise you can feel that it is a mark of real quality—THE BEST OBTAINABLE.

**OWNING OUR GROUNDS AND BUILDINGS** in the business center of Portland—with our house tracks easily accessible to all railroads—places us in the most advantageous position to render prompt, efficient and economical service.



TRADE MARK  
PORTLAND, OREGON

(2.7)

# Portland Seed Company's Catalog and Seed Annual for 1922



PORTLAND, OREGON

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**S**EEADS for 1922—We offer standard varieties that are most satisfactory and profitable to the growers in our territory. We do not speculate in novelties but encourage the selection and improvement of varieties of known commercial value.

**DIAMOND QUALITY SEEDS** are grown from selected strains by the most careful and trustworthy specialists, under our own direct supervision. They are carefully cleaned and graded, then finally tested for germination and purity.

**SEED GRAINS**—The U. S. Grain Standards now make it impossible to market mixed varieties of wheat or other grains at the best prices, and growers will find it necessary and profitable to plant clean, pure seeds of standard varieties. (See grain section of this catalog for those best adapted to the Northwest.)

**OREGON GROWN SEEDS AND PLANTS**—Improved varieties of our own introduction—have stood the test of time and competition and are established standards in the coast markets. Earliest of All and Pride of Multnomah Potatoes, Golden West Sugar Corn, Oregon Yellow Danvers Onions, St. Valentine Broccoli, Oregon Yellow Dent Corn, New Oregon Strawberries, Riverside Giant Rhubarb—have won large returns for growers. They will win for you.

**HOME GARDENS**—Carefully planned and planted the Home Garden will produce through a long season a big supply of delicious fresh vegetables for the table and canning that will greatly reduce living expenses.

**POULTRY AND BEES**—If you have a yard raise chickens and keep bees. Eggs and poultry are the best of foods, and bees at no expense and with little care, will produce a plentiful supply of honey, the best substitute for and more wholesome than sugar.

**OUR SEEDS ARE ALL TESTED** in our seed laboratory for purity and germination and only those seeds that are above the standards are used. Our seeds are not sold on commission, therefore we do not have a quantity of unsold seeds returned to us or carried over. Packets are put up fresh each season and you can make no mistake in using DIAMOND Quality Seed.

**WE TAKE THIS OPPORTUNITY** of thanking our many customers for their generous patronage in the past, and to assure them that we will continue to do all in our power to merit a continuance of their confidence, and that we aim to give every order, no matter how small or how large, prompt and careful attention.

**USE OUR SERVICE DEPARTMENT**—Our suggestions and recommendations may help you to secure better results, save loss of time and protect you against unnecessary work and expense—a service that is free to you.

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## Do You Want This Catalog

Be sure and send us an order for seeds if you want this catalog next year. If you do not send us an order or write us your name may be taken from our mailing list believing you have changed your address, or you may have come to the store where you can get a catalog at the counter. We prefer to have you on our list as an annual customer; then you will always get our catalog as soon as it comes from the press.

When you change your address notify us if you want this catalog.



## WHEN AND HOW TO ORDER

**S**END in your combined orders for seeds, plants, supplies, etc., at once. We are prepared to fill orders as soon as this Catalog reaches you, and if you do not want all sent now we will send part now and the balance later. The advantage of this is that your order is entered and filled or stock reserved so the complete order or any part can be sent upon notice without delay. If you want part or all of your order held, state it distinctly with date when shipment is to be made. All orders for potatoes, plants and other perishable goods are carefully booked on receipt, and filled in rotation as soon as weather permits. If shipped early, they are at buyer's risk.

**BE SURE TO SIGN YOUR NAME**, giving Postoffice and State. Do not write letters on the same sheet as orders.

**USE ORDER BLANK** in the front of your Catalog, carefully filling out the blank spaces at the top for shipping directions.

**KEEP A COPY OF YOUR ORDER.** Check goods when received. We use the greatest care in filling, checking and packing orders, but in spite of all, mistakes may occur. Should any happen in your order, advise us promptly, giving order number, and same will be promptly rectified. Do not return goods until you hear from us.

**PRICES.** The prices named in this catalog are those prevailing at the time the catalog goes to press and are subject to market changes in value. Your order will be figured at the price prevailing at the time same is received and where lower you will be protected and refund made according to price. As prices usually advance on many items, toward the planting season, it will be to your advantage to **order early**.

**OUR TERMS ARE STRICTLY CASH WITH ORDER** where arrangements for credit have not been previously made.

**SEEDS POSTPAID BY MAIL.** We send all vegetable and flower seeds in quantities of ten pounds or less by mail, postpaid, to any Postoffice in the United States, at the prices named in this Catalog unless otherwise stated.

**EXPRESS AND FREIGHT.** Seeds sent by freight or express means that we deliver the goods to the express or railway company. The purchaser pays all transportation charges on goods. On moderate sized orders we advise express shipment rather than freight. Upon delivery of goods to transportation company, a sale is completed. In event of loss or damage to goods in transit the purchaser must have notation of such loss placed upon his receipt, and may then file claim for loss at his station, or may send the necessary papers to us when we shall gladly enter claim for him, remitting to him as soon as the claim is paid. Remember that our responsibility ceases on delivery in good order to the transportation company, and it is therefore imperative that every purchase be carefully examined for loss or damage before receiving it.

**WE DO NOT GUARANTEE REPLACEMENT OF GOODS SENT BY MAIL.** An additional remittance of five cents will insure any mail package.

**PREPAY STATIONS.** When you send in orders to go by freight or express be sure that you add money enough to pay freight charges if your station is a prepay point, which is **always the case where there is no regular agent**.

**SPECIAL QUOTATIONS ON LARGE ORDERS.** Any dealer, market gardener, institution or individual wishing seed in large quantities, is requested to mail us a list of what is wanted, and we will promptly return it with the very lowest market prices. A letter of inquiry may save you dollars if you want to buy in quantity. If in need of something pertaining to agriculture not herein listed, write us before ordering elsewhere.

**COMPLAINTS OR PRAISES.** If you are well pleased with our goods and the manner of doing business, tell everyone. If you are not, tell us, so we can please you. Our best efforts will be put forth in filling all orders carefully and promptly in a way that will please you.

**SEND MONEY** by Postoffice or Express Money Order, Bank Draft or Registered Letter. Postage stamps will be accepted for small amounts. Money sent in any other way is entirely at sender's risk.

**NOTE CAREFULLY** that seeds in packets, pounds and ten pounds of one variety are **postpaid**; all other items are F. O. B. Portland, Ore., unless the price is stated otherwise, and money should be sent to cover transportation if sent to a station without an agent or if sent parcel post, balances will be promptly returned. A compliance with this will save expense and annoyance and insure quicker delivery. Advise how you want your goods shipped.

**BE SURE TO ORDER EARLY—BEFORE STOCKS ARE DEPLETED.**

**Note**—We use every precaution in procuring fresh, pure and reliable seeds, etc., but we, in common with other responsible seedhouses, sell our goods subject to the following disclaimer, it being that adopted by the American Seed Trade Association, i. e.:—We give no warranty, express or implied, as to description, quality, productiveness or any other matter of any seeds, bulbs, trees or plants sent out and will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms they are to be returned at once.—Portland Seed Company.

## DIAMOND QUALITY SEEDS

ARE TESTED SEEDS

To further guard the interests of our customers and maintain our standard of excellence, we have installed a modern seed laboratory equipped as recommended by the U. S. Dept. of Agriculture, placing in charge a certified seed analyst. It is here that final tests and inspections are made, and only those seeds that are above the standards are offered to the public, and bear our **Diamond Trade Mark**—the mark of quality that stamps them as the best obtainable.

*We are the only Seed Company maintaining a seed laboratory in Oregon.*



## REFERENCE TABLES

Quantity of Seeds to produce a given number of plants and to sow an acre

	Quantity per Acre
Artichoke, 1 oz. to 500 plants	6 oz.
Artichokes—White French	8 bu.
Asparagus, 1 oz. to 800 plants	1 lb.
Asparagus Roots	7500

Barley	2 to 2½ bu.
Beans, dwarf, 1 lb. to 100 ft. of drill	1 bu.
Pole, 1 lb. to 100 hills	½ bu.
Beet, Garden, 1 oz. to 100 ft. drill	6 to 7 lbs.
Mangel, 1 oz. to 100 ft. of drill	5 lbs.
Broccoli, 1 oz. to 2,000 plants	4 oz.
Brussel Sprouts, 1 oz. to 2,000 plants	4 oz.
Brown Corn in Drills	15 lbs.
Buckwheat	½ to 1 bu.

Cabbage, 1 oz. to 2,000 plants	4 oz.
Carrot, ½ oz. to 100 ft. drill	3 lbs.
Cauliflower, 1 oz. to 3,000 plants	3 to 4 oz.
Celery, 1 oz. to 5,000 plants	4 oz.
Cheat	2 bu.
Chicory	4 lbs.
Clover, Alsike and White	8 to 10 lbs.
Alfalfa	15 to 20 lbs.
Crimson Trefoil	10 to 15 lbs.
Red	10 to 15 lbs.
Collards, 1 oz. to 2,000 plants	4 oz.
Corn, Pop (shelled)	8 to 10 lbs.
Sweet or Field, hills	12 to 15 lbs.
For soiling drills	3 bu.
Cress, ¼ oz. to 100 ft. drill	1 lb.
Cucumber, 1 oz. to 100 hills	2 to 3 lbs.
Egg Plant, 1 oz. to 2,000 plants	4 oz.
Emmer	100 lbs.
Endive, ¼ oz. to 100 ft. drill	4 lbs.
Flax broadcast	¾ bu.

## Grass—

Kentucky Blue, for pasture	1 to 2 bu.
Kentucky Blue for lawns	100 lbs.
Meadow Fescue	1 bu.
Mixed Lawn	5 to 6 bu.
Red Top, Chaff	1 to 2 bu.
Red Top, solid seed	10 to 15 lbs.

Number of Plants per acre at various distances  
In planting trees the greater distance should be given in the richer soils

DISTANCE APART	Method
1 foot apart each way	43,560
2 feet apart each way	10,890
4 feet apart each way	2,722
6 feet apart each way	1,210
9 feet apart each way	537
10 feet apart each way	435

DISTANCE APART	Method
15 feet apart each way	193
16 feet apart each way	170
20 feet apart each way	103
25 feet apart each way	70
30 feet apart each way	48
40 feet apart each way	27

## Diamond Fertilizers

will restore and sustain the productiveness of your soil. They are an investment, not an expense, and will return many times their cost.



## VEGETABLE SEEDS

**D**IAMOND QUALITY SEEDS are grown especially for us from selected strains, varieties that years of trial have proven to be most satisfactory for home and market gardens. Many of our seed crops are grown under our personal supervision—others come from the world's great centers of seed production of Europe and America where conditions are most favorable for their perfect development.



### General Notes on Planting and Culture

**W**E have marked those varieties that **mature early** with this little Diamond, our trade-mark. This will aid you in the selections for your home garden.

**If you live in Northwestern Oregon or Washington** you will have better success with your garden by planting these early maturing varieties after the Spring weather is settled and the ground warm, than if you planted very early, as many seeds will not give the best results in the cold damp of the early Spring, and even if they live, the plants may be stunted and not grow. These suggestions are only general, as you will note that many special sorts can be planted very early.

**If you live in the Willamette Valley or Southern Oregon** you can plant almost anything as early as the condition of the soil will permit.

**Do not work the soil when it is wet**, as this has a tendency to make it lump and bake and may put it in such shape that nothing can thrive in it. Wait until it is just dry enough to crumble away nicely when turned over, and if you will press the dirt firmly down on the seeds, getting right in the row and tramping the soil down with your feet—they will germinate quickly even in comparatively dry soil. Any extra work in carefully preparing the soil will more than repay you in the increased results, and always remember that constant and thorough cultivation is almost equal to water and fertilizer both, and will insure a good crop even in a dry season, and on ordinary soil.

**New land must be thoroughly broken up and cultivated** in order to make a good seed bed, as new ground in the wooded sections of the Pacific Coast rarely produces bountiful crops the first few seasons without careful culture, fertilizing and rotation.

**It pays to fertilize** and cultivate to supply the necessary plant foods to the growing crops.

**Fertilizers are not an expense** but a profitable investment sure to give big returns if correctly applied and the cultivation and care of the crop is given proper attention.

**Plan your plantings** and keep a garden book or record of some sort, for by so doing you will get the utmost pleasure and profit from your garden and as the seasons pass you will find this record an invaluable aid and reference work. For if you keep a record you will soon learn what varieties are best for your requirements and to know your favorites, and when buying seeds or plants you will know just what to order.

**If you are in doubt** about what you should do, or want any special information, be sure to write to us. We will be pleased to give your inquiries our careful attention, and advise you to the full extent of our knowledge.

**BOOKS** AN UP-TO-DATE REFERENCE BOOK will save the beginner many times its cost and will suggest improved methods to the experienced. SEE LIST OF STANDARD REFERENCE AND TEXT BOOKS.

# ASPARAGUS

**A**SPARAGUS is one of the earliest Spring vegetables, and would be in universal use were it not for the mistaken idea that it is difficult to grow. In reality it can be produced very easily and cheaply and is a profitable market crop. A bed 15x50 feet, requiring about 100 plants, should give an abundant supply for the average family.

**CULTURE**—Soak seeds 24 hours in warm water, sow early in drills one foot apart. An ounce of seed will sow about 300 feet of drill. Keep the soil mellow and free from weeds. After one year's growth transplant into permanent beds that have been carefully prepared by working to a depth of 24 inches, manuring deeply, using old manure and bone meal; 5 feet is a convenient width for a bed that will carry three rows, and can be reached without treading upon it. Set the plants about 18 inches apart in the rows and spread the roots out, firming the soil down on them. If your soil is well drained the bed may be level, but if not it must be elevated a little. Give a good dressing of well rotted manure after planting and an occasional application of salt or brine. In the Fall when the foliage turns yellow, cut it off and give a dressing of manure or good commercial fertilizer. A warm, sandy soil is the best, and one which has for some years been cultivated in garden crops and heavily manured is greatly preferred to a fresh soil. But at no period of its growth should the asparagus crop be allowed to lack for manuring. From one to two years' time can be saved by buying roots of us. See plant department. 7260 roots will plant an acre.

You  
Gin  
A Year  
by using  
Plants



**DIAMOND FRUIT FERTILIZER FOR ASPARAGUS** Ask for Our Free, Booklet "Fertilizers"

## Artichoke Large Green Globe

The variety used as a table vegetable. The edible portion is the thick end of leaf of the flower head. Sow early in drills and when about ten inches high transplant into rows four feet apart each way. It will produce only a small crop the first year, but will continue in good bearing five years. Cut before the bud opens. The seedlings are variable and for market gardening they are generally propagated from cuttings.

The buds when in blossom resemble huge thistles and the foliage being highly ornamental, this variety is much used for hedges and display in parkings.

Pkt. 10c, oz. \$1.25

## Artichoke Jerusalem—White

Distinct from the Globe, belongs to the Sun-flower family. Produces tubers like potato; grown in the same way. A fine vegetable for table and also valuable as hog feed. Price and description under Field Seeds.



Globe  
Artichoke

# BEANS

Prices postpaid—Pkt. 15c,  $\frac{1}{2}$  lb. 25c, 1 lb. 40c, 10 lbs. \$3.50

## Wax or Yellow Podded Kinds

### DWARF OR BUSH VARIETIES



#### PENCIL POD BLACK WAX

"Pencil Pod" is the most satisfactory of the early dwarf Wax Beans.

Of dwarf, bushy growth, about fifteen inches high, large, luxuriant foliage, beneath which in great clusters will be found an enormous crop of beautiful straight yellow pods six to seven inches long, well rounded, deeply "saddle backed," meaty and solid clear through; they are brittle, of rich mild flavor, and entirely stringless. An early sure cropper; of the finest quality.

#### GOLDEN WAX

Very hardy and productive. A good second early variety of fine quality, but should be picked young to avoid strings.

#### DAVIS WAX

Rustless and immensely productive, very hardy and one of the best for market gardeners. The dried bean is kidney-shaped, clear white, and a favorite for baking and canning.

#### WARDELL'S KIDNEY WAX

Vines are of medium size, with long, flat pods of a delicate, waxy yellow, very brittle and entirely stringless when young. A favorite main crop variety with market men.



#### IMPROVED BLACK WAX

The standard early market variety, a sure cropper of good quality.

**CULTURE**—*The soil best adapted for growing beans is a light, rich, well-drained loam, which was well manured for the previous crop. If the ground is too freshly manured the plants are apt to run to vines and set few blossoms. Plant in drills about two inches deep and from eighteen inches to two feet apart, as soon as the ground is dry enough and warm—about May 1st, or later, and for succession up to July 15th. Beans are very sensitive to cold and wet before they have sprouted, but are not so liable to be damaged after they are above ground.*

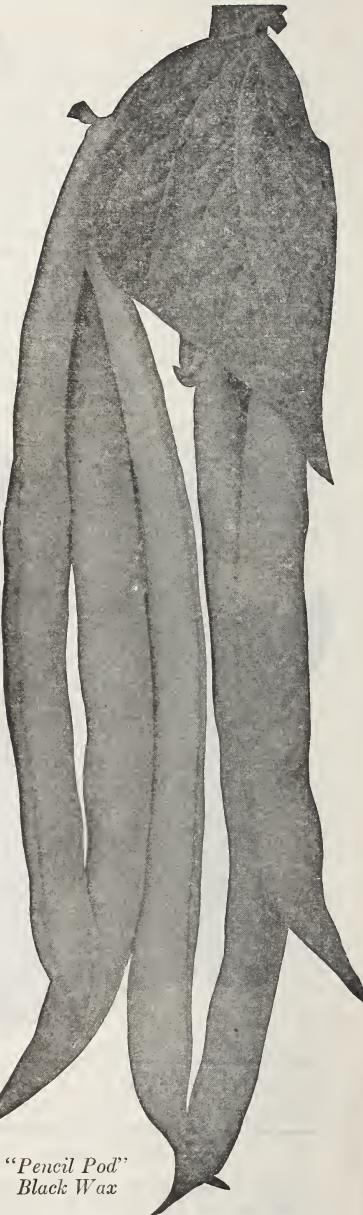
*Plant about one pound of Dwarf or Bush Beans to 100 feet of drill, one bushel per acre. Pole Beans—one pound to 100 hills, requiring about one-half bushel per acre. When planted in hills,  $2\frac{1}{2}$  to 3 feet apart, small varieties such as "Navy" and "Lady Washington" will require from 16 to 25 pounds per acre; larger sorts running from 25 to 30 pounds. Owing to their short season of growth, from 60 to 80 days, beans generally make a profitable crop for trucking. After harvesting the beans, always plow the vines under to fertilize the soil.*

**In growing Beans commercially** sufficient moisture, freedom from frost from the middle of May to late September, and thorough preparation of the soil with good cultivation, are the requirements for a profitable crop. Closer planting can be practiced where there is plenty of moisture and under dry conditions as too much moisture will not allow the crop to mature properly and close planting will often hasten maturity by absorbing the moisture, growing conditions being favorable.

**Anthracnose** produces large, scabby, dead spots on the pods and the controlling measures are the selection of clean seed and spraying the plants with *Bordeaux Mixture*.

**Powdery Mildew**, showing a white growth of fungus covering the surface of the leaves, especially in rainy or damp weather, should be treated with powdered sulphur.

**Cut worms and flea beetles** can generally be controlled by the use of "Corona" Arsenate of Lead either sprayed or dusted on the foliage. Ask for booklet "Garden Pests and Their Control." See Sprays.



"Pencil Pod"  
Black Wax

## BEANS—Continued

### Climbing or Pole Beans

Prices Postpaid

Pkt. 15c;  $\frac{1}{2}$  lb., 25c; 1 lb., 40c; 10 lbs., \$3.50

**CULTURE**—Do not plant until the soil has become warm and the weather settled—and always remember beans should have rich, well drained soil. It is best to set the poles before planting; these should be six to eight feet high, rows about four feet each way.

Plant four to six beans to the hill and thin to two or three, depending on the variety. If trellis is used, sow in hills about one to two feet apart in the row. A pound should plant 75 to 100 hills. A top dressing of commercial fertilizer or old manure should be worked in when cultivating.

### OREGON POLE LIMA

The only Lima Bean that will thrive in our cool climate

Oregon Pole Lima grows a strong, thrifty vine and is very prolific, bearing continuously until frost, the blossoms bursting from the top shoots in long panicles, while the pods can be seen in every stage of development, to the matured beans at the bottom of the vine. Pods are well filled, having three to five large beans of the finest quality.

Oregon Pole Lima can be planted in any garden soil as early as April or late as July. Give the same care and culture as other Beans, and they are ready to use when the pods are filled and first begin to ripen. They are at their best when the full green pods begin to turn yellow.

Try "Oregon Pole Lima." It is a wonder, sure to grow, and will produce more fine beans of delicious table quality than any variety we know of.

### KENTUCKY WONDER

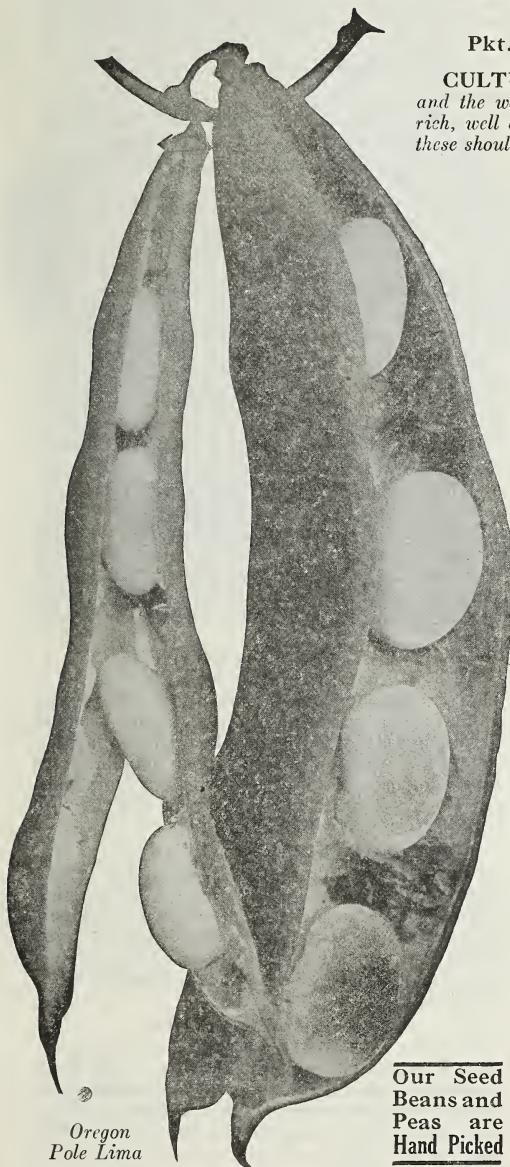
A vigorous climber; very prolific, bearing in clusters extremely long and very fleshy, succulent pods, flat, thick and remarkably tender. A first-class pole variety.

### LAZY WIFE

Pods are from four to five inches in length, produced in large clusters in great abundance. Dark green, thick, fleshy and stringless of unusually rich flavor. Dry beans, pure white excellent for winter use.

### SCARLET RUNNER

A favorite as a shell bean and for its flowers, which are bright scarlet; seeds broad and kidney shaped.



Our Seed  
Beans and  
Peas are  
Hand Picked

## Commercial FERTILIZERS Profitable

A 100-lb. Bag of High Grade Commercial Fertilizer will contain more soluble and available plant food than 4,000 pounds (two tons) of stable manure of average quality. How much easier and cleaner to handle one 100-pound bag than  $\frac{2}{3}$  tons of manure, and there are no weed seeds to worry over. Our Free Booklet, FERTILIZERS, tells what fertilizers are best and how to use them profitably.

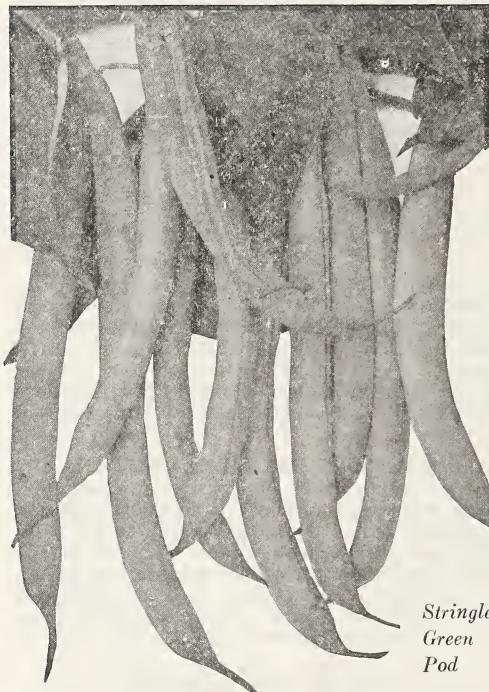


## BEANS—Continued

**O**WING to our mild Winters and cool Summers, locally grown acclimated seed from properly selected strains will be found to give best satisfaction, in the Pacific Northwest. We are constantly testing and selecting the most dependable and profitable sorts and increasing our facilities and connections for local production, and when we offer a variety as being suited to your requirements and location you can accept it without fear of disappointment.

### Dwarf or Bush—Green Podded Kind

Prices Postpaid



Stringless  
Green  
Pod

Pkt. 15c;  $\frac{1}{2}$  lb. 25c; 1 lb. 40c; 10 lbs. \$3.50

### STRINGLESS GREEN POD

Extra Early

The finely shaped, long green pods are absolutely stringless, and are ready to market two weeks earlier than any other green-podded bean. It is of immense value, not only to the market gardener, but also for those who seek early beans of a rare quality for the home table. A splendid dried brown bean.

### CANADIAN WONDER

This splendid bush bean is the largest, most prolific of the green-podded sorts, and is entirely stringless in its early development. Comes a little later than the New Stringless Green Pod, but continues in bearing throughout the season, and is excellent shelled green.

### REFUGEE, OR THOUSAND TO ONE

Of great value on account of its hardiness, vigorous growth and wonderful productiveness. Is not excelled by any other variety as a snap bean, and is considered the best for pickling or canning. Beans small, dark purple, veined brown. Pods of perfect form, dark green, veined purple.

### DWARF HORTICULTURAL or "Cranberry Bean"

Grows erect, strong and shrubby, and is very prolific. The bean is highly prized, green shelled. It is rather large, plump and beautifully mottled yellow and red; one of the most delicious and desirable beans and a great favorite with market gardeners. The dwarf type of the old favorite London Horticultural Pole Bean.

### LADY WASHINGTON

Sturdy, bushy plant, erect habit, and is a great improvement over the old "Navy," being much earlier, a little larger, and a very heavy yielder; being especially adapted to our Western soils, and is entirely free from disease. Bush attains a height of about 14 inches, and beans mature in September.

### BROAD WINDSOR "Horse Beans"

Stalk erect, strong and shrubby. The bean is large, broad and flat; should be planted early and is best green shelled. A European variety, very hardy and can be planted earlier than other sorts. Grown extensively for stock in some sections.

### CASTOR BEAN

(For Ornamental Varieties see Flower Seed)

Used for medicinal purposes and by some claimed to keep moles away. Caster beans are very ornamental, the plants and foliage being large and tropical in appearance.

### EXTRA EARLY RED VALENTINE

This improved strain has a healthy, vigorous growth. The beans are small, but the pods are thick, round and fleshy: very tender, rich and quite stringless. A popular bean for canning green. Bush grows to a height of 15 inches and is very prolific.

### TREE BEAN

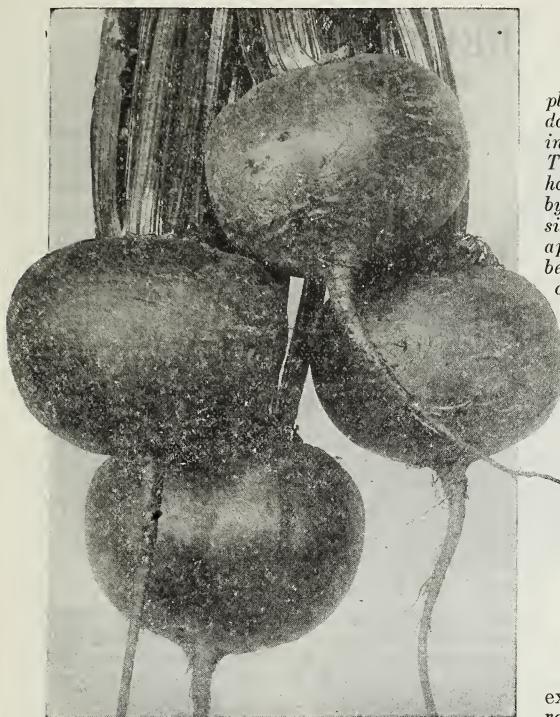
Of sturdy branching habit bearing heavily and ripening early and evenly. The foliage is scant and usually falls before the pods fully mature. The distinctive pure white, rounded form and smaller size distinguishes this bean from other small white varieties and we consider it the most desirable for Northwestern growers. The cooking and table qualities are unsurpassed.

For BEANS use 350 pounds per acre of our  
**Diamond Vegetable Fertilizer**

Ask for our Free Booklet "Fertilizers"

**Mulford Cultures For Beans**

increases the yield, enriches the soil. Garden size 35c, acre \$1.50, 5 acres \$5.00, postpaid.



P. S. Co's Market Gardener

**EXTRA EARLY EGYPTIAN**

The best variety for forcing, and for market gardeners, being very early with small tops. Roots very dark red, rounded on top, but flat beneath, with very small tap roots.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

**LONG SMOOTH DARK BLOOD**

The leading late variety, keeping well all Winter. Should be planted in rich, warm soil to secure rapid growth, which makes them tender. Top small, root long and smooth. Flesh deep purple, fine and sweet.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

**HALF LONG BLOOD**

A new variety of excellent quality. One of the very best for Winter use; does not become woody and keeps as well as the Long Dark Blood. The root is smooth and handsome, and the flesh is brilliant in color and as good in quality as the best Blood Turnip varieties. Give it a trial.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

**EARLY BLOOD TURNIP—IMPROVED**

An extra selected stock of blood turnip having larger, coarser tops and roots than the Detroit Dark Red, and requiring a longer time to mature. Excellent for Summer and Autumn use.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

*Use Sulphur* in connection with your fertilizers and make your soil give you the highest possible returns. It is a first class fertilizer, fungicide and insecticide. See Index.

**BEETS**

**CULTURE**—The Beet is hardy and may be planted as soon as the ground can be well prepared, doing best in rich, sandy soil, sown in rows sixteen inches apart, covered one and one-half inches deep. The seed will sprout better if soaked twenty-four hours in warm water before planting. Thin out by using the largest ones when they are of sufficient size, continuing until they are six or eight inches apart in the rows. For field crop, the rows should be far enough apart to permit the use of a horse cultivator. Prices below, postpaid.

**P. S. CO'S MARKET GARDENER**

This new, extra early Beet is remarkable for its fine quality and rapid growth; it is of deep red color and handsome shape; as an early market sort it is unrivaled. It is to a large extent superseding the Egyptian, being earlier in development, more attractive in appearance and of superior quality for the table, holding its color and cooking quickly. Market gardeners prefer it as it matures evenly, stands a long time and does not split.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.50

**DETROIT DARK RED TURNIP**

A fine Beet for bunching for market: tops exceptionally small and uniformly upright. The roots are perfect turnip shape with small taproots. One of the deepest red beets. Quality is of the finest: sweet and tender, one of the best beets for home gardens.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

**EARLY ECLIPSE**

One of the best early sorts. It possesses all the qualities requisite in a first class beet, and is of a uniform, globular shape. The roots are a bright, glossy red, fine-grained and delicious.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

**SUGAR BEET**

**Klein Wanzleben**—This is the standard variety grown commercially for the production of sugar.

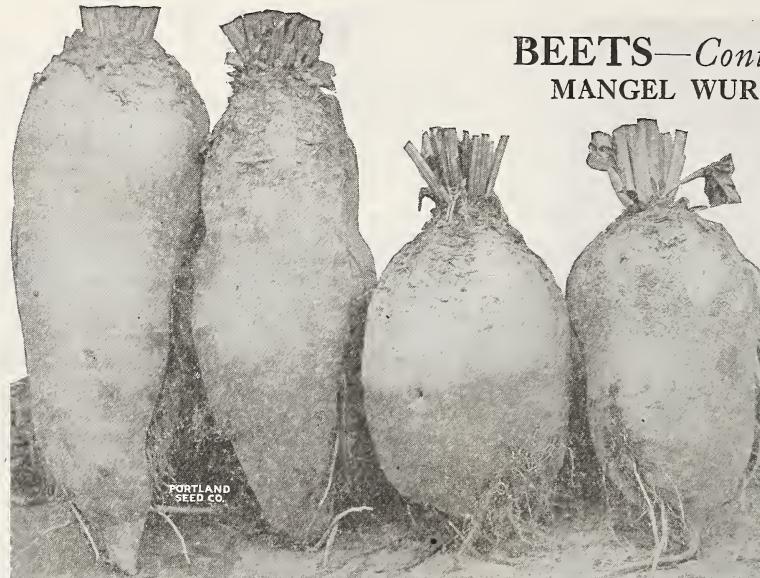
Pkt. 10c,  $\frac{1}{2}$  lb. 45c, 1 lb. 80c, 10 lbs. \$7.50.

**Lane's Improved Imperial Sugar**—Large thick, tapering variety. Yields almost as much as mangels. Is sweet and rich and very desirable for stock.

Pkt. 10c,  $\frac{1}{2}$  lb. 45c, 1 lb. 80c, 10 lbs. \$7.50

**White French or Vilmorin's Improved Sugar**—The best variety for growing for sugar-making.

Pkt. 10c,  $\frac{1}{2}$  lb. 45c, 1 lb. 80c, 10 lbs. \$7.50



Yellow Giant

Sludstrup

Golden Tankard

Eckendorf

**CULTURE OF MANGEL AND SUGAR BEETS**—Thoroughly fine soil as good roots cannot be grown in lumpy, poorly prepared ground. The largest crops come from a soil ranging from light to a friable clay loam that has received from eight to fifteen loads of manure to the acre. This can be plowed in or half broadcast and half used in the furrows; a deep plowing in of fresh manure in the Fall is best. It is also necessary to add some commercial fertilizer, but any good soil will grow a fair crop.

Use 6 to 10 pounds of seed to the acre, depending on whether machine or hand planting is used, planting liberally so that in thinning an even stand can be secured. The rows can be 18 to 30 inches apart, depending upon soil and method of culture. Level culture is best. If planted during dry weather, be sure the seed is in from one and one-half inches as it requires lots of moisture to burst the hard shell.

A poor stand and weak germination is often due to improper planting and lack of moisture. Transplanting can be successfully done to fill vacancies. Do this before a shower, and early, breaking off the tops of the larger leaves.

#### P. S. CO'S HEAVIEST CROPPER

This is a wonderful improvement on existing stocks of Yellow Mangels, being one of the heaviest croppers and easiest pulled, of very fine quality. The small foliage permits it to be left comparatively thick in the rows and weight per acre is therefore enormous. It is considered distinct over all other kinds and one of the largest and best Yellow Mangels.

Pkt. 10c,  $\frac{1}{2}$  lb. 50c, 1 lb 90c, 10 lbs. postpaid \$7.50

#### YELLOW GIANT, INTERMEDIATE or Gate Post

Roots very large, growing over one-half out of the ground; flesh white, sweet and tender; tops bright green, comparatively small; neck small short. Its fine flesh never becomes woody and the crop is easily harvested.

Pkt. 10c,  $\frac{1}{2}$  lb. 40c, 1 lb. 70c, 10 lbs., postpaid \$6.50.

#### GIANT RED ECKENDORF

Is of straight, cylindrical form, very blunt, and grows mostly above the surface. Awarded a first-class certificate as a very heavy cropper.

Pkt. 10c,  $\frac{1}{2}$  lb. 40c, 1 lb. 70c, 10 lbs., postpaid \$6.50.

#### MAMMOTH LONG RED

An improvement on the Long Red, with ordinary cultivation. If you want a large crop of large Mangels of good quality, don't fail to try this sort. Very uniform, smooth and of good shape. Should be grown in deep loose soil.

Pkt. 10c,  $\frac{1}{2}$  lb. 40c, 1 lb. 70c, 10 lbs., postpaid \$6.50.

## BEETS—Continued MANGEL WURZEL

These are grown extensively for stock feeding, and afford large quantities of fresh, nutritious and wholesome food during the Winter months, in connection with grain and dried forage. Sugar Beets are richer and sweeter than Mangels, but do not produce as heavily.

Yellow Giant

Sludstrup

Golden Tankard

Eckendorf

#### NEW MANGEL HALF SUGAR

A new variety, more valuable for feeding purposes than the old sorts, yields as much per acre as the best Mangels, and twice as much per acre (bulk of roots) as the rich sugar beets. Roots large, very smooth, with few rootlets; creamy white in color, with medium sized tops.

Pkt. 10c,  $\frac{1}{2}$  lb. 40c, 1 lb. 70c, 10 lbs. postpaid \$6.50.

#### GOLDEN TANKARD

Dairy farmers state they are able to obtain a higher price for milk when feeding cows on "Golden Tankard." Sheep thrive on it. "Golden Tankard" is a rich, deep yellow throughout. Early, hardy and a heavy cropper.

Pkt. 10c,  $\frac{1}{2}$  lb. 40c, 1 lb. 70c, 10 lbs., postpaid \$6.50.

#### DANISH SLUDSTRUP

Long, reddish-yellow, grows well above the ground, and is easy to pull. Has repeatedly been awarded a first class certificate by the Danish Government.

Pkt. 10c,  $\frac{1}{2}$  lb. 40c, 1 lb. 70c, 10 lbs., postpaid \$6.50.

## SWISS CHARDS

New Savoyed Leaf "LUCULLUS". An improved variety of "Swiss Chard," growing about two and a half feet high. The heavy stalks are over an inch thick and bare for more than a foot of their length. The leaves make the finest of "greens." By cutting back the leaves close to the ground tender shoots spring up quickly, these or the mid-rib are very delicious cooked as asparagus. Swiss chard is hardy, easily grown and should be in every garden. It is one of the most delicious of all vegetables.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c, lb. \$2.00

## BRUSSELS SPROUTS

The plants, which are very hardy, grow two or three feet high, and produce, from the sides of the stalks, numerous little sprouts, which resemble very small cabbages one or two inches in diameter. The

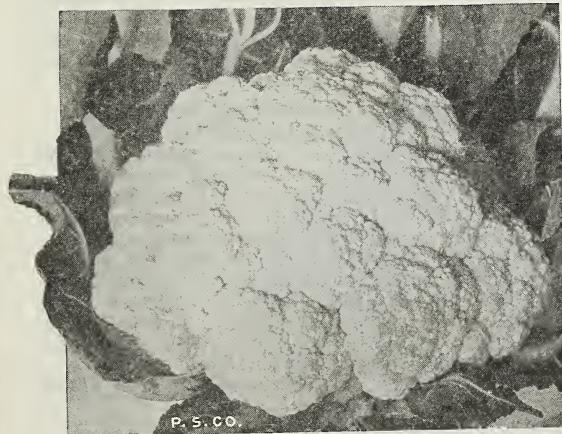
leaves should be broken down in the Fall, to give the little heads more room to grow. They should be treated in all respects like Winter Cabbage or Kale.

### DWARF IMPROVED

A carefully grown strain, very hardy and giving compact, round sprouts of large size and good quality.

Pkt. 10c, oz. 40c,  
 $\frac{1}{4}$  lb. \$1.25.

"Cabbages, Cauliflower, Broccoli,"  
by Gregory. Price  
per copy, 45c.



St. Valentine Broccoli

## S T. VALENTINE—The Finest of All Broccoli

This grand new strain introduced by us is a sure header of immense size, finest quality, and is ready for market in February. The large, solid, handsome, white heads remain in good condition longer than other varieties.

### EARLY LARGE WHITE FRENCH

A valuable variety with large, white heads, firm and of good flavor.

Pkt. 10c, oz. 90c,  $\frac{1}{4}$  lb. \$3.00, 1 lb. \$9.00



Swiss Chard "Lucullus"

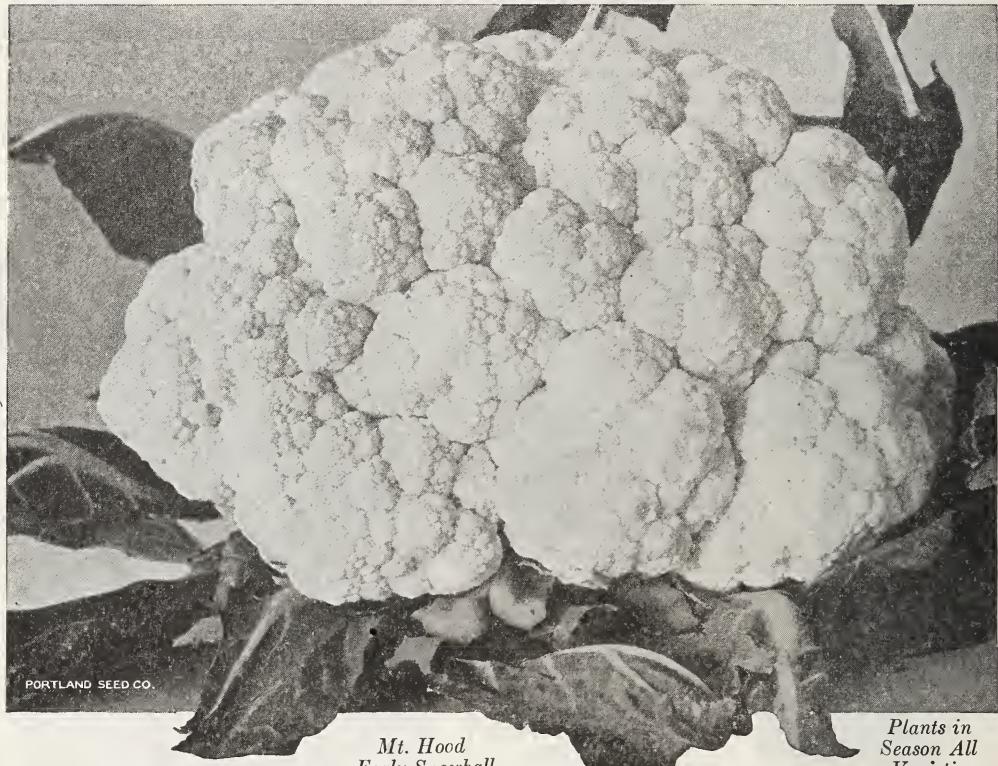
## B R O C C O L I or Winter Cauliflower

Broccoli is so nearly related to late Cauliflower that the varieties are often listed under both heads—the principal difference being in the hardiness and time of maturity, Broccoli not heading until late Winter or early Spring. Culture is same as for late Cauliflower, and good, rich, well-drained bottom land is best, but well-tilled, well-fertilized upland will produce a good crop.

The St. Valentine Broccoli, which we introduced some years ago, is the variety extensively grown by commercial planters—many car-loads being shipped from Oregon each season.



# CAULIFLOWER



PORTLAND SEED CO.

Mt. Hood  
Early SnowballPlants in  
Season All  
Varieties

**CULTURE**—The Cauliflower succeeds well in any soil where cabbage will grow but best results are obtained in rich loam with an abundance of water. By sowing early varieties in a hot bed in February or March, or later in a cold frame, fine heads can be obtained quite early. For a later supply, sow seed in a prepared bed in May, choosing a cool, moist place. When large enough transplant, making the rows about  $2\frac{1}{2}$  feet apart and 18 inches between the plants. In dry seasons the crop must be watered.



### P. S. CO.'S "MT. HOOD" SNOWBALL

The seed that produces those handsome large white solid heads that bring big profits to the gardener. We offer our "Mt. Hood" Cauliflower seed in sealed packets only, under our own label, it having been carefully selected and grown for us by one of the very few expert Cauliflower growers, and is the best strain of "Early Snowball" obtainable. We especially recommend "Mt. Hood" Snowball for either early or late planting.

Pkt. 25c,  $\frac{1}{4}$  oz. \$1.50, oz. \$4.50,  $\frac{1}{4}$  lb. \$15.00



Ordinary strain. This is the regular grade of "Early Snowball" that is generally offered, and while it will not give as good results as "Mt. Hood," can be depended upon to produce a good crop. Pkt. 15c,  $\frac{1}{4}$  oz. \$1.00, oz. \$3.00,  $\frac{1}{4}$  lb. \$10

### AUTUMN GIANT

The heads are white, large, compact and thoroughly protected by foliage.

Pkt. 10c,  $\frac{1}{4}$  oz. 40c, oz. \$1.50,  $\frac{1}{4}$  lb. \$5.00

**Don't Buy cheap strains of Cauliflower Seed. Only the best select strains can be depended upon to produce a big percentage of large, white, solid heads**

### DANISH GIANT—DRY WEATHER CAULIFLOWER

"Danish Giant" is an early, large, solid white Cauliflower that can successfully withstand a drought that would prove fatal to other varieties and will thrive splendidly in dry sections, being peculiarly adapted to their growing conditions, but like all cauliflower must have rich soil and cultivation to give best results. "Danish Giant" can also be grown under moist conditions and is a dependable market variety. If your location is subject to drought or you are "dry farming," be sure to plant "Danish Giant."

Pkt. 25c,  $\frac{1}{4}$  oz. \$1.15, oz. \$4.25,  $\frac{1}{4}$  lb. \$14.00

### LARGE ALGIERS

A valuable late sort, sure to head, of the best quality and very popular with market gardeners everywhere. Plants large, but of upright growth the leaves protecting the heads so that they will endure, uninjured, a frost that would ruin other sorts. One of the very best of the late varieties.

Pkt. 10c,  $\frac{1}{4}$  oz. 50c, oz. \$1.50,  $\frac{1}{4}$  lb. \$5.00

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



Plants in  
Season

# CABBAGE

CULTURE—The requisites for complete success are: First—Good seed. There is no other vegetable where the seed has so much influence on the quality of the product, and gardeners should always use the best procurable. Second—Rich, well prepared ground. Third—Frequent and thorough cultivation. A heavy, moist and rich loam is most suitable, which should be highly manured and worked deeply. Cabbage is universally grown and specific directions regarding the time and method of planting applicable to all localities cannot be given. In general, the early sorts should be sown very early in hot beds, hardened off by gradually exposing to outside air, and as early as the ground is in good condition, transplanted, setting 18 to 36 inches apart, according to size of variety. The late Autumn and

Winter varieties may be sown from the middle to the last of Spring and transplanted when 4 to 6 inches high. Shade and water the late sowings in dry weather to get them up.

It is important that the plants should not be crowded in the seed bed, or they will run up weak and slender and produce many long stems.

## EARLY JERSEY WAKEFIELD

The favorite Early Cabbage with our market gardeners. A sure header. The thick, stout leaves and compact habit make it the best for Wintering over and very early setting.

Grown more extensively for market than any other early cabbage. Is always of good size, very solid, and has but few outside leaves; a reliable header and always gives good satisfaction

Pkt. 10c, oz. 35c,  $\frac{1}{4}$  lb. \$1.20, 1b. \$3.50

## EARLY DWARF FLAT DUTCH

Grows low on the stem; a sure header; firm fine grained, tender and excellent.

Pkt. 10c, oz. 40c,  
 $\frac{1}{4}$  lb. \$1.25, 1b.  
\$4.00.

## SUCCESSION

Heads large, slightly flattened; grows low on the stem.

Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65, 1b. \$5.00

**Fertilize  
your Cabbage with  
Diamond  
Onion Fertilizer**  
1000 lbs. per acre

Promotes a quick, even growth, developing crisp, solid heads that command highest prices. Ask for our Booklet "FERTILIZERS."



## COPENHAGEN MARKET

### Splendid Cabbage for Home Gardens

A splendid early globe-shaped Cabbage slightly flattened. The large solid heads are very uniform, with few outer leaves, keeps well and stands handling. Copenhagen Market originated in Denmark, where it is the favorite market variety, and we recommend it to our customers as the best early round head.

Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65, 1b. \$5.00



Copenhagen



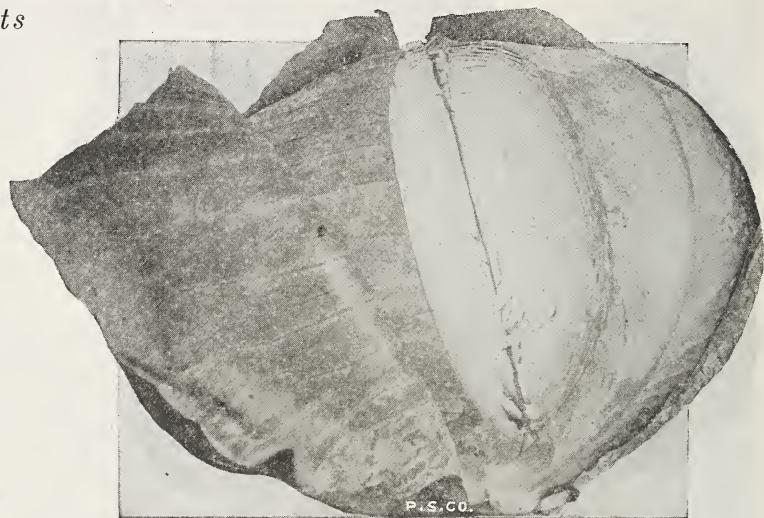
## CABBAGE—Continued

### Cabbage Plants

Well grown  
stocky plants  
properly  
hardened off—  
all standard  
sorts in season

Prompt  
deliveries at  
right prices

See Plant  
Department



#### DANISH BALLHEAD

##### Select Short-Stem

Our strain of short-stem Ballhead is imported direct from Denmark, originating on the famous island of Amager, the vegetable garden of Copenhagen.

The fine ribbed leaves are so densely packed together that no space is left for water or air to start decay and the firm solid heads are famed for their superior excellence and keeping qualities. Matures late and when cut shows a fine, hard, snowy white, solid head. The best in its class. Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65, lb. \$5.00

#### P. S. Co.'s Select Short Stemmed Ball Head

#### DANISH ROUND HEAD

##### Select Short-Stem

A round ball shaped cabbage of great solidity. Color, rich dark green, has few outer leaves, is very hardy and a profitable late market variety. Our stock of Round Head is Danish grown and of the same superior quality as the short-stem Ballhead, being one of the latest keepers and best varieties for early Spring market. Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65, lb. \$5.00

#### RED CABBAGE—Odense Market

Used for pickling. The heads are very fine and remarkably sure heading. We believe this to be the best red cabbage.

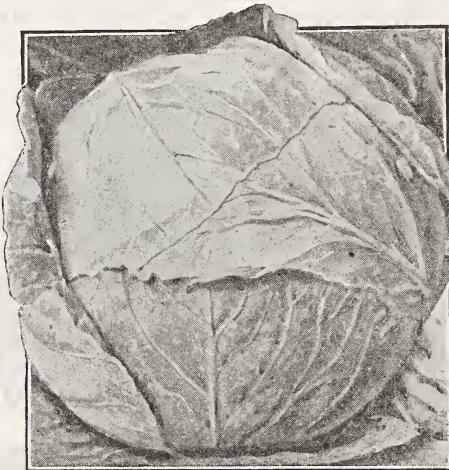
Pkt. 10c, oz. 40c,  $\frac{1}{4}$  lb. \$1.25, lb. \$4.00

#### SAVOY CABBAGE

##### Vertus—Late Savoy

Large, compact heads; crisp and tender with a rich flavor. Desirable for cooking or salads.

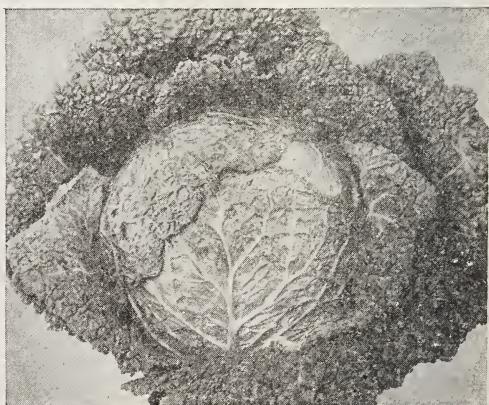
Pkt. 10c, oz. 40c,  $\frac{1}{4}$  lb. \$1.25, lb. \$4.00



Late Flat Dutch

#### PREMIUM LATE FLAT DUTCH

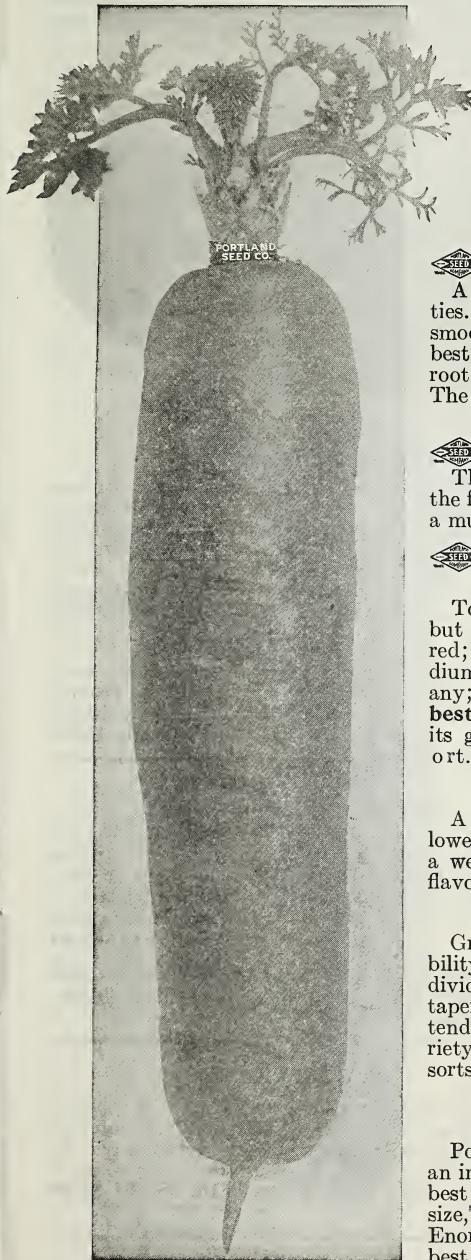
This improved strain possesses all the good qualities of the old favorite, "Late Flat Dutch," one of the largest of the late varieties and is a sure header. Pkt. 10c, oz. 40c,  $\frac{1}{4}$  lb. \$1.20 lb. \$4.00.



Vertus—Late Savoy

## CARROTS

CARROTS, aside from being one of our most useful and easily grown garden vegetables, are invaluable for stock feeding. They are greatly relished, promote health and put a sleek coat on cattle and horses, giving a well-kept appearance. Dairy and stockmen should grow them extensively. For their special use we recommend our "Yellow Giant."



P. S. Co.'s New Coreless

**CULTURE**—*A sandy loam is the best soil for the carrot, but any good land, if thoroughly and deeply worked, will produce satisfactory crops. Sow as early in the Spring as the ground is fit to work, though good crops may be grown from sowing as late as June 15. For table use, sow the smaller kinds in rows 16 to 18 inches apart, and for field culture prepare the ground thoroughly and sow in drills 18 to 24 inches apart. Cover one-half to one inch deep and see to it that the soil is well firmed above the seed.*

## P. S. CO'S NEW CORELESS

A splendid new carrot. Larger than other early varieties. Crisp, solid, of fine flavor and entirely coreless, grows smooth and uniform, a true stump rooted type. The very best for canning or drying as it is coreless and has no tap root to trim off and waste. Holds its color and cooks quickly. The ideal carrot for home gardens.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, lb. \$2.00

## EARLY SCARLET HORN

The best early kind for general use. It is larger than the forcing variety, but fully as good in quality, and produces a much larger crop. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

## CHANTENAY

The Market Gardener's Favorite

Tops, medium sized; necks, small; roots, tapering slightly but uniformly stump-rooted and smooth; color, deep orange red; flesh, very crisp and tender. Although this is a medium early sort, it furnishes roots of usable size as early as any; is a heavy cropper, and is undoubtedly one of the best for both the market and private garden, while its great productiveness makes it very desirable as a field sort.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

## OXHEART

A thick carrot, five or six inches long and very blunt at the lower extremity. It grows very rapidly and the root attains a weight of more than a pound. It is tender and of good flavor.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

## DANVER'S HALF LONG

Grown largely on account of its productiveness and adaptability to all classes of soil. Tops, medium sized, coarsely divided. The smooth, handsome roots are of medium length, tapering uniformly to a blunt point; flesh, sweet, crisp, tender; deep orange in color. Although the roots of this variety are short, they produce as large bulk as the longer field sorts, and are more easily harvested.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

## P. S. CO'S. IMPROVED LONG ORANGE

Popular for farm use on deep, mellow soil. Our stock is an improvement obtained by years of careful selection of the best formed and deepest colored roots, which grow to a large size, some specimens averaging twelve inches in length. Enormous crops can be grown under fair culture; one of the best varieties for feeding stock.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

## USE DIAMOND VEGETABLES FERTILIZER FOR CARROTS

Our Book "FERTILIZERS" tells how to profitably use Fertilizer. Tells what you should get for your money when you buy Fertilizers—a book every grower should have and is FREE FOR THE ASKING

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## CARROTS—Continued

### Good and Productive Stock Carrots

Carrots are a sure and profitable crop for dairy and stockmen—and “Yellow Giant” is the most profitable, heaviest yielding variety—  
Try it.



“Kow Kure”

Makes poor cows  
good—good cows  
 better. See index

#### P. S. CO.'S YELLOW GIANT Specially Adapted to Moist, Heavy Soils

This new Carrot originated at the Sydney, Australia, Experimental Station, and has proved itself to be the earliest and most productive stock carrot offered to date. It is a half long variety, with an immense broad shoulder. The Carrot penetrates less than one-half the depth into the ground, which saves about one-half the expense of harvesting the crop. The color is of bright yellow, and is perfection itself for giving the proper color to butter. Every dairymen who wants a big crop of carrots of the right quality and easy of culture should plant our Yellow Giant.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 40c, lb. \$1.00

#### CRESS Curled, or Pepper Grass

This salad is much used with lettuce, to which its warm, pungent taste makes an agreeable addition. The seed should be sown in drills about 16 inches apart, on very rich ground, and the plants well cultivated. It may be planted very early.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

CHIVES—Chives belong to the onion family and the tops are used green for flavoring and garnishing. They grow in little clumps and can be supplied as plants any time in the early spring.

See Plant Department

#### CHICORY

The roots, dug in the fall, dried, cut in thin slices, and ground, are used largely as a substitute for coffee. Seed should be sown quite thinly in shallow drills early in the spring. When well started, thin out to stand 2 or 3 inches apart in the row. Pkt. 10c, oz. 40c,  $\frac{1}{4}$  lb. \$1.35, lb. \$4.00.

#### CHERVIL

Can be planted any time in the early spring. The leaves should be kept cut, and if not allowed to run to seed, will keep green for a long time. Makes an excellent plant for garnishing.  
Curled. Very finely curled, somewhat resembling parsley and used in same manner.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 80c, lb. \$2.50

#### IMPROVED SHORT WHITE— “MASTODON” Of Excellent Table Quality

Ranks as a field carrot, owing to its enormous productiveness and the ease with which it can be harvested. Roots half long, smooth, very heavy at the shoulder, but tapering regularly at the point: color, light green at the crown, white below: flesh, rich, white, solid, crisp and of excellent flavor. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 40c, lb. \$1.00

#### LARGE WHITE BELGIAN

Extensively grown for stock feeding: very productive. Grows so much above the ground that the entire crop can be pulled by hand.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 40c, lb. \$1.00

#### CORN SALAD

##### Fetticus, or Lamb's Lettuce

A refreshing salad, used extensively in Winter and Spring as a substitute for lettuce. It is often cooked like spinach. Sown in drills 1 foot apart, in the Spring or Fall. On the approach of cold weather cover over with straw or coarse litter.

Pkt. 10c, oz. 30c,  $\frac{1}{4}$  lb. \$1.00

#### COLLARDS

Southern Georgia—This variety is the old-time favorite. Stands all sorts of adverse conditions without injury. Is very hardy. In many places where the soil is too poor to grow cabbage. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c, lb. \$2.00

## CELERY

**CULTURE**—Sow the seeds early, about February, in a hot-bed or cold frame. When 3 inches high transplant, setting them 4 inches apart. When grown 6 inches, and fine, stocky plants, set in richly manured, deep soil, in rows  $3\frac{1}{2}$  feet apart and about 9 inches from plant to plant. Water if dry weather follows transplanting. During the next two months all the attention that is required is to keep down the weeds. Blanch by placing boards along the rows, or earth up a little, and continue doing so at intervals until only the tops of the leaves are visible late in Autumn. Never hoe up the earth when plants are wet. One ounce of seed produces about 6,000 plants. See footnote on growing.



White  
Plume

*Celery  
Plants*

Large  
Healthy  
Transplanted  
Plants in  
Standard  
Varieties for  
Delivery in  
Season

Any Number  
at  
Right Prices

See Plant  
Department

WHITE PLUME  
The Leading White Celery

A handsome, crisp sort, of very easy cultivation. Naturally its stalks and portions of its inner leaves and heart are white. It is the earliest celery known.

Pkt 10c, oz 35c,  $\frac{1}{4}$  lb \$1.20, 1b \$3.50

GOLDEN YELLOW SELF-BLANCHING

This is no doubt the best celery for early Spring market use. Plants are of a yellowish green color when young, but as they mature the inner stems and leaves turn a beautiful golden yellow, which adds much to their attractiveness and makes the work of blanching much easier.

Pkt 10c, oz 80c,  $\frac{1}{4}$  lb \$2.65, 1b \$8.00

EASY BLANCHING CELERY

As an early green top variety that has become very popular in eastern celery growing sections because it requires only a few days to blanch the celery for market. The advantage of this is apparent.

Pkt 10c, oz 40c,  $\frac{1}{4}$  lb \$1.35, 1b \$4.00

WINTER QUEEN

This is without doubt the most valuable variety of celery for Winter and Spring use ever introduced. Has double the amount of heart of any known celery. The plant has a fine appearance, of compact growth, and blanches to a beautiful cream-white. Ribs perfectly solid, crisp and a delicious nutty flavor.

Stored for Winter or Spring use, it is an excellent keeper and when taken out the blanched stalks will be firm and crisp; entirely free from strings; brittle and of sweet flavor.

Pkt 10c, oz 30c,  $\frac{1}{4}$  lb \$1.00, 1b \$3.00

GIANT PASCAL

Largest variety grown: of fine, nutty flavor; very easily blanched. Pkt 10c, oz 35c,  $\frac{1}{4}$  lb \$1.20, 1b \$3.50

CELERY SEED For flavoring. Oz 10c,  $\frac{1}{4}$  lb 20c, 1b 65c

CELERIAC

Turnip Rooted  
Celery  
Large Smooth  
Prague

Improved form  
with very few side  
roots. The largest  
and best variety.

Pkt 10c, oz 35c,  
 $\frac{1}{4}$  lb \$1.20



Celeriac  
Turnip  
Rooted  
Celery

To Succeed with Celery you must keep your plants growing constantly while young, if you allow them to "stand still" they will run up to seed later. Always cultivate as soon after watering as the ground is dry enough to work well. Fertilize heavily in the Spring—and use nitrate later if needed.



# CUCUMBERS



*Diamond Long Green*

**CULTURE**—Cucumbers need a warm, rich soil, and should not be planted in open ground until the weather is settled, as otherwise they will not thrive. Plant in hills 4 feet apart each way, thinning to three or four of the strongest plants, after danger from insects is passed. As fast as the cucumbers attain suitable size they should be taken from the vine, whether required for use or not, as their ripening soon destroys the vines' usefulness.

### "DIAMOND" LONG GREEN

The leading large variety. Fruit from 10 to 12 inches long, dark green, crisp and tender. A good variety for slicing, and when matured they are the best for sweet pickles. We offer our "Diamond Strain"—they will grow long and uniform in shape. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c, 1 lb. \$2.00

### PEERLESS, OR EARLY WHITE SPINE

One of the best sorts for table use, fruiting early and abundantly. Fruit uniformly straight and handsome: light green, with a few white spines. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1 lb. \$1.50

### SHORT GREEN, OR EARLY FRAME

An excellent sort for both table use and pickling. Fruit straight, small at each end, bright green, with crisp, tender flesh. Comes into use a little later than the Early Cluster and keeps green a long time.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1 lb. \$1.50

### LEMON CUCUMBER

This dainty little cucumber resembles a lemon both in form and color, having a distinctive flavor superior to and not found in any other cucumber. The Lemon Cucumber is so prolific that a single vine will be ample for the needs of the average family. It is also said that the Lemon Cucumber can be eaten without fear of the harmful results that some experience from eating cucumbers.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 85c, 1 lb. \$2.50

### JAPANESE CLIMBING

A useful variety for growing on a trellis or wire. The cucumbers are long, of a dark green color, white flesh, crisp, and of a good flavor.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c

*For Cucumbers  
DIAMOND FERTILIZER  
will repay its cost many  
times over. Let us send  
you our Free Book  
"FERTILIZERS"*



P. S. CO.

### BOSTON PICKLING OR GREEN PROLIFIC

Color, bright green, and a great producer. The fruits average 4 to 5 inches in length when large enough for slicing, and are of excellent quality but it is for producing medium sized pickles that this variety is so highly esteemed.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1 lb. \$1.50

### TELEGRAPH—FORCING

A standard forcing variety, very popular with gardeners. Fruit 14 to 16 inches long, of very fine quality. A sure and heavy cropper.

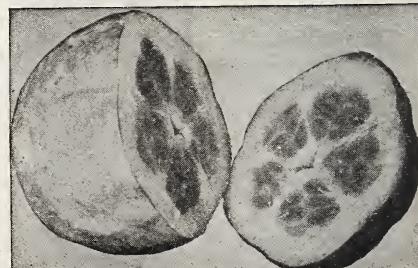
Pkt. 25c

### "THE DAVIS PERFECT" CUCUMBER

The "Davis Perfect" is of perfect form, large size and of the finest color; is crisp, delicious and almost seedless. This fine variety comes from the originator of the Davis Wax Bean and is one of the most valuable varieties for home or market.

The "Davis Perfect" is as handsome, grown outside, as any hothouse cucumber.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c, 1 lb. \$2.00

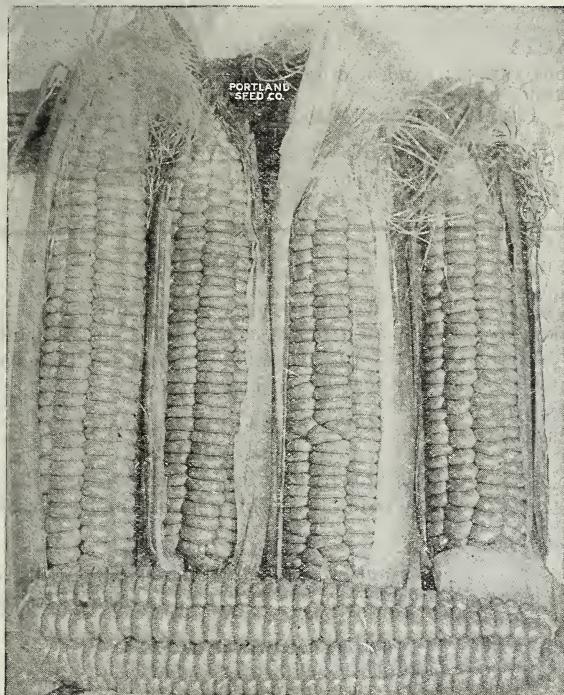


*Lemon Cucumber*

**"CORONA DRY" Powdered Arsenate of Lead will protect Cucumbers and other vegetables from leaf-eating insects. Ask for a free copy of "Garden Pests and Their Control"**

## SWEET OR SUGAR CORN

 Prices Sweet Corn, Postpaid, Pkt. 15c,  $\frac{1}{2}$  lb. 25c, 1 lb. 40c, 10 lbs. \$3.50



*Golden West*

**EARLY WHITE CORY—Mammoth**

The stalks are no larger than those of the "White Cob Cory," but each stalk furnishes two or more large, fine-shaped ears, which are fit for use before those of most other sorts. The ears are 12-rowed, very symmetrical and handsome. The grain is large, broad, very white and of remarkably good quality.

**EARLY MINNESOTA**

This old and deservedly popular variety is one of the best early sorts for the market and the private garden.

**COUNTRY GENTLEMEN**

The sugary sweetness and delicious flavor make this old-time favorite one of the most desirable varieties. The slender white irregular kernels are very long, the cob small, making much more to the ear than other varieties.

**STOWELL'S EVERGREEN**

Remarkable for remaining a long time in a fresh condition suitable for the table. Hardy and productive and the best late variety for general use.

**GOLDEN BANTAM**

The original yellow sweet corn. Does not grow quite as large an ear as our "Golden West," but has most of its good qualities; early, productive, sweet and rich.

**CULTURE**—Corn should not be planted until the ground is warm, as the seed will rot in cold, damp soil, or if planted too deep. Late April is early enough for first plantings and for succession plant every two weeks through May and June. Cover the first planting very lightly, increasing the depth a little for the later plantings. For the Dwarf Early varieties, rows should be three feet apart; for later large varieties, four feet and the hills two or three feet in the rows.

Sweet or Sugar varieties are used both for table and stock feeding, some of the large later sorts being preferred for silos and fodder.



**GOLDEN WEST**

**Oregon Grown Seed**

*The richest, sweetest corn ever grown—* To be sure of the right strain, look for our Diamond trade mark on every package.

Our "Golden West" Corn, a selection from the original strain of Golden Bantam, produces a larger ear, has a more vigorous growth, and by continued careful selection, improves yearly. We believe it to be the richest, sweetest, best yielding early sweet corn. "Golden West" is extremely hardy, can be planted earlier than other varieties, and, being of dwarf habit, can be planted closer than other sorts. It is the very best corn for market or home gardens, where earliness and quality are considered. The color is a rich, creamy yellow, deepening to golden as it matures, and the quality is so fine that you must try it to appreciate how good corn can be.

**BLACK MEXICAN**

An old favorite still in good demand on account of its quality and sweetness. A good variety for home gardens.

**PORTLAND MARKET**

One of the earliest large eared varieties. Large, sweet, plump grains of purest white on well filled ears; a good market variety. Ears large but stalks not considered a rank grower.

**OREGON EVERGREEN**

We offer "Oregon Evergreen" as the finest main crop Sweet Corn. The flavor and sweetness have not been excelled and the extreme whiteness of the large ears makes it very beautiful and valuable for canning. It is large and the stalks produce more ears than any other variety and have a very heavy husk over the grains, protecting them from insects and keeping the ear fresh a long time after cutting.

"Oregon Evergreen" is a hardy, vigorous grower and is the ideal Corn for market gardeners.



## EGG PLANT

Should be started in a hotbed and transplanted when the weather is settled and the ground thoroughly warm. They will thrive with the same treatment as that given the tomato.



### BLACK BEAUTY

An extra early, quick-growing, vigorous variety: handsome and very uniform. Color, deep blackish purple. Splendid market sort.

Pkt. 10c, oz. 80c,  $\frac{1}{4}$  lb. \$2.50



Black Beauty

### NEW YORK IMPROVED, LARGE PURPLE

The leading market variety. Large, round, dark, excellent and the most productive.

Pkt. 10c, oz. 80c,  $\frac{1}{4}$  lb. \$2.50

## GARLIC

**CULTURE**—Garlic is a profitable crop if your soil is right and proper methods of culture are employed. The sets are planted in the same manner as "Multiplier Onions," dividing the little clump, planting each bulblet thick end down, being careful not to bruise them as they will rot if injured. October is the planting month in Western Oregon.

A medium loam soil containing a little sand and well drained is best and commercial fertilizer should be used. Deep and thorough preparation of the soil is necessary.

Plant in rows 14 inches apart—sets 4 inches apart in the row. It requires 175 to 200 pounds to plant an acre. When approaching maturity, the tops die down and are not removed but used to braid the Garlic together for hanging up and convenience in handling. An acre should produce from two to four tons.

Write for Prices

## ENDIVE

This is a hardy vegetable, cultivated principally for a Winter salad. Sow from May until August for a succession of crops: tie the leaves closely together to blanch them.

### BROAD LEAVED BATAVIAN (Escarolle)

Has broad, thick leaves, which form a large loose head.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c

### WHITE CURLED

A beautiful variety, with curled, mossy leaves for early use.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c

### GREEN CURLED

Standard sort for Fall and Winter.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c

### HORSERADISH ROOTS

For prices and description, see Plant Department

## KOHL RABI

Hardy and of easy culture. Grown from plants the same as cabbage. The Kohlrabi is a vegetable intermediate between the cabbage and turnip and combines the flavor of both. The edible part is a turnip-shaped bulb formed by the swelling of the stem. Kohlrabi is far superior to cabbage or turnips in the delicacy of its flavor and is a splendid addition to every garden. It should be eaten before growth ceases.

### EARLY WHITE VIENNA

Very early; bulb white; best table variety.

Pkt. 10c, oz. 30c,  $\frac{1}{4}$  lb. \$1.00



### EARLY PURPLE VIENNA

Same as above except in color, which is purple.

Pkt. 10c, oz. 30c,  $\frac{1}{4}$  lb. \$1.00

## "CORONA DRY"—THE UNIVERSAL INSECTICIDE—FOR GARDENS

A safe, inexpensive, easily applied and efficient remedy for chewing garden pests—for use on fruit trees, berry bushes and plants that will insure perfect fruit and clean vegetables. "GARDEN PESTS AND THEIR CONTROL" tells how to use "Corona Dry" profitably in your garden. Free copy on request.



## HERB SEEDS—Sweet, Pot and Medicinal

Every garden should contain a collection of Herbs for flavoring and medicinal purposes. They are almost a household necessity: are easily grown, and many of them are very ornamental.

**CULTURE**—*Herbs in general delight in rich, mellow soil. Those marked with a (\*) are perennial and when once obtained in the garden may, with a little attention, be preserved for years. Sow the seeds early in the Spring in shallow drills, one foot apart. We offer some of the most useful and popular. They should be cut on a dry day, just before they come into full bloom, and tied in bunches and hung up or spread thinly on a floor where they can dry quickly. When dry and crisp, rub fine and bottle.*

### All the following Herbs, 10c per Packet.

**Anise**—Seeds have useful medicinal properties: also used for flavoring.

**\*Balm**—Used for culinary purposes and for making Balm Tea.

**Basil**—Used for seasoning soups, having a decided flavor of cloves.

**Borage**—Excellent for bees, flowers are also in request for garnishing.

**Coriander**—Seeds used in confections; leaves for soups and salads. Very aromatic.

**Caraway**—For flavoring, the seeds being used extensively by bakers and confectioners.

**\*Catnip**—(Cat Mint)

**Dill**—The flower heads and seed are used in soups, stews and pickles: leaves have same flavor and can be used in like manner.

**\*Fennel**—For garnishing and fish sauce.

**Hyssop**—Used medicinally.

**\*Horehound**—Used medicinally as a cure for colds.

**\*Lavender**—By distillation produces the well-known Lavender water, the flowers for perfuming wardrobes, etc.

**Marjoram**—The sweet aromatic leaves in either a green or dry state are used for flavoring.

**\*Pennyroyal**—Used medicinally.

**\*Rosemary**—Infusions of the leaves are used in medicinal beverages. Produces an aromatic oil.

**\*Rue**—Leaves are used in medicine, also for roup in poultry.

**\*Sage**—The leaves and tender tops are used in stuffings and sauce: also in the beverage known as Sage Tea.

**Saffron**—Used for flavoring.

**Savory**—Summer. Used for flavoring.

**Savory**—Winter.

**Thyme**—Broadleaved, used in soup, stuffing and sauce.

**\*Wormwood**—Taken as a tonic in the form of tea.

**Tansy**—Used medicinally, as tea and bitters.

## Herb Seeds for Flavoring

**Anise**—Anise seed for flavoring.

**1/4 lb. 15c, 1 lb. 40c**

**Poppy**—Seed used for flavoring.

**1/4 lb. 10c, 1 lb. 35c**

**Mustard**—For flavoring and pickling

**Lb. 10c, postpaid 20c; 100 lbs. market price**

**Celery**—For flavoring.

**Oz. 10c, 1/4 lb. 15c, 1 lb. 50c**

**Caraway**—We keep constantly on hand a large stock of well preserved seed for the use of Druggists, Bakers and Confectioners.

**Oz. 10c, 1/4 lb. 20c, 1 lb. 55c**

**Dill**—Used to flavor soups, stews and pickles. Leaves possess similar qualities, and can be used in same manner as seeds. **Market Price.**

## Foreign Names of Herbs

A Stands for Annuals or those generally used for such. B for Biennials. P for Perennials.

ENGLISH	FRENCH	GERMAN	ITALIAN
A Anise	Anis	Anis	Anacio
P Balm	Melisse-Citronelle	Citronen-Melisse	Melissa
A Basil	Basilic-grand	Basilikum	Basilice
A Borage	Bourrache	Boretsch	Boragine
A Caraway	Cumin des pres	Feld-kummel	Carvi
A Catnip	Cataire	Katzenminze	Cataria
A-B Coriander	Corian re	Koriander	Coriandorio
A-B Dill	Aneth	Dill	Aneto
P Fennel, Sweet	Fenouil	Fenchel	Finochio
A Fenugreek	Fenugreec	Bockshornsalmen	Foenungrasciene
P Horehound	Marrube Blanc	Andorn Kraut	Marrubio
P Hyssop	Hysoppe	Isop	Isopo
P Lavender	Lavende	Lavendel	Lavanda
A-B-P Marjoram, Sweet	Marjolaine	Majoran	Maggiorana
P Mint, Common	Menthe des Jardins	Munze	Menta
P Rosemary	Romarin	Rosmarin	Rosmarino
A Rue	Rue	Raute	Ruda
P Sage	Sauge	Salbei	Salvia
A Saffron	Safran	Safran	Zafferano
P Sorrel	Oseille	Sauerampfer	Acetosa
A Savory, Summer	Sarriette	Bohnenkraut	Santoregia
P Tansy	Tanaisie	Gemeiner Rainforn	Atanasia
P Thyme	Thym	Thymian	Timo
P Wormwood	Absinthe	Wermuth	Assenzio

WE SUPPLY HERB PLANTS IN MOST VARIETIES IN SEASON. SEE PLANT DEPT.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

# KALE

## EMERALD ISLE—Finest in the World

This is really the handsomest Kale that has ever come under our notice: and is entirely distinct from other strains, very hardy, of medium height, and very vigorous, throwing out new shoots as fast as the leaves are used, and will furnish excellent greens all winter. The closely curled, handsome leaves are most attractive and of fine flavor. Fine exhibition plant. Oregon grown seed.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c

## TALL GREEN CURLED SCOTCH

Grows about two feet high: leaves dark green, curled and wrinkled: very hardy and is improved by a slight frost.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c

## DWARF GREEN CURLED

Leaves beautifully curled and bright green. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c

For KOW-KALE See Page 42

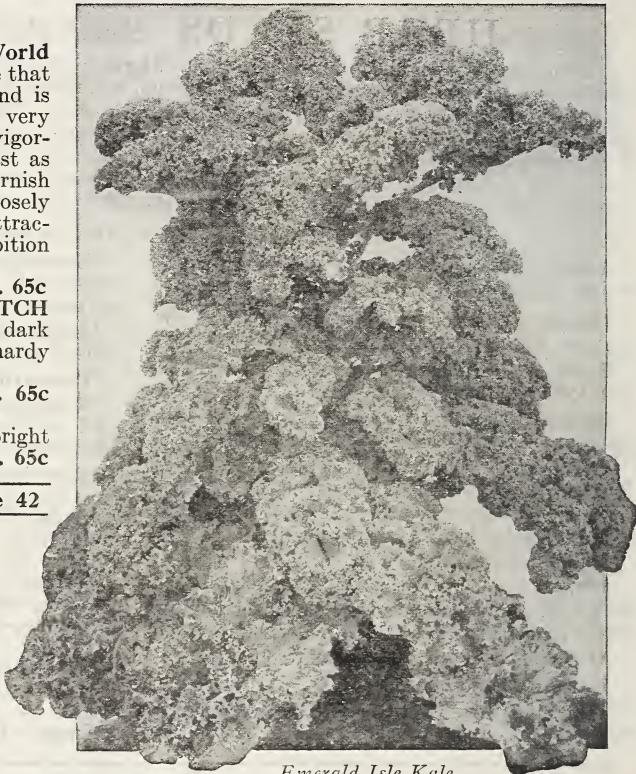
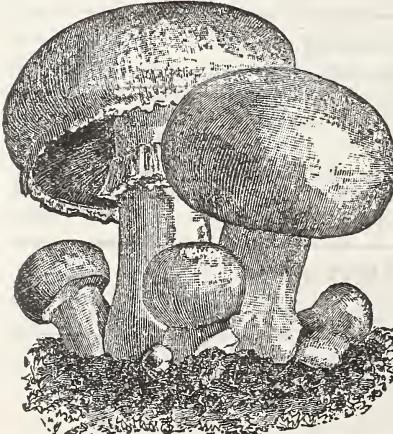
# LEEK

The Leek belongs to the Onion family. Prized for soups. Cultivate same as Onions, but should be hilled up about the neck to blanch it.

## LARGE ROUEN or American Flag.

A large, favorite American sort.

Pkt. 10c, oz. 35c,  $\frac{1}{4}$  lb. \$1.15



*Emerald Isle Kale*

# MUSHROOM SPAWN

With intelligent care and good spawn, Mushrooms can be made to pay handsomely. They can be successfully grown in a dry cellar, under the benches of a greenhouse, or in sheds, where the temperature can be kept from 50 degrees to 60 degrees through the Winter. Our free pamphlet gives general instruction.

## NEW AMERICAN SPORE CULTURES

This Spawn is produced from the original spores by the new French process—exclusively controlled by the American Spawn Co., and is the only method by which select varieties can be perpetuated and improved. Bricks weigh about 20 ounces and will plant 10 square feet.

Price per brick, postpaid 40c, prepaid 5 bricks \$1.75

MUSHROOMS: How to Grow Them. By Falconer. 162 pages. Postpaid \$1.60  
MUSHROOM CULTURE and Pure Culture Spawn. 32 pages. Postpaid .35

# MUSTARD

The varieties we offer make the finest of greens when used alone or if combined with cress furnishes a delicious salad. Sow any time in the Spring, in rows, and thin out as necessary.

**FORDHOOK CURLED**—Beautiful dark green, finely curled plume-like leaves that are of distinctive flavor: superior to spinach as greens and is fine for salads. "Fordhook Curled" is vigorous and productive.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

**SOUTHERN GIANT CURLED**—We offer a fine strain of the true curled leaf.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

**CHINESE MUSTARD**—Less pungent than other varieties. Chinese Mustard is most delicious, thriving at the same season and under conditions that are favorable to spinach.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50



# LETTUCE



P. S. Co.'s  
"Crispette"  
a splendid lettuce  
at all seasons for  
Home Gardens

**CULTURE**—*Lettuce is so extensively grown that cultural directions seem unnecessary, but we offer a few simple suggestions that may save a later disappointment, as any failure is generally blamed to the seed. This should not be, as Lettuce, like many other vegetables, requires very rich soil, plenty of water, a cool growing season and intense culture to produce the best results. If the earliest varieties are planted out in the Spring, and the weather turns dry and hot, they will run up to seed without heading. The same seed sown in the Fall or with cooler growing weather would develop perfectly. At a temperature of 40 degrees or lower Lettuce will not thrive. At 65 degrees and upward it has a tendency to run up and not head properly. For outside planting sow the seed in shallow drills from one to two ounces to the 100 yards. An ounce will produce 3,000 plants. Four pounds should plant an acre. Lettuce matures in forty to sixty days from time of planting.*



Our "New Crispette" is a beautiful lettuce, the quality of which is simply perfect. The large, curly leaves, which cover the outside of the solid heads, are of a bright, light green. The unusual solidity of the heads is insured by the large, white main ribs of the leaves, each of which curving strongly toward the center, makes it impossible for the leaves to open outward and expose the center, which will always be found crisp, tender, sweet and melting. It matters not whether grown to head in the early Spring or the hottest days of Summer, the leaves are always **crisp and tender**.

## P. S. CO.'S CRISPETTE

Pkt. 10c, oz. 25,  $\frac{1}{4}$  lb. 80c, lb. \$2.50

## MAY KING

A large growing, smooth leaved, richly flavored sort. Plant, light green, with round leaves, which form into a very solid, compact, round head; stands a long time without running to seed. Inner leaves blanch to a rich golden yellow. **Exceedingly rich, tender and buttery.** Fine for open ground or forcing. For succession plant in Spring, then August and again in September.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, lb. \$1.75

## SIMPSON'S EARLY CURLED

A leading market variety used for very early planting and forcing. Forms a dense mass of finely curled and wrinkled leaves that are excellent and tender, and do not wilt readily.

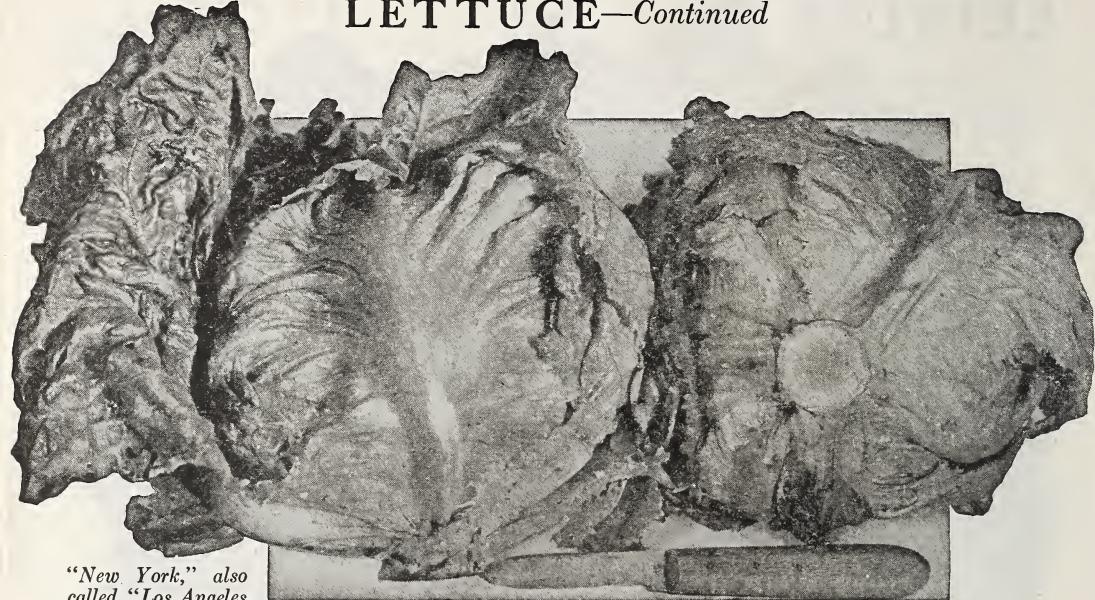
Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

## BLACK SEEDED SIMPSON

Forms a close, compact mass of curly leaves of a yellowish green. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

**DIAMOND FERTILIZERS WILL FORCE LETTUCE EARLY**—Make Big Solid Heads — Tell us whether you are growing under glass or outside and we can tell you what fertilizer is best, and how to use it profitably—Fertilizer Book Free—Ask for it

## LETTUCE—Continued



*"New York," also  
called "Los Angeles  
Market"*

## NEW YORK OR WONDERFUL

## The Best Head Lettuce for Market Growers

This is the mammoth head lettuce so popular in California, where it is known as "Los Angeles Market," from whence it is shipped to the Northern markets, arriving in splendid condition. The immense heads are solid, heavy, beautifully blanched to a creamy white with bright green outer leaves. The quality is unsurpassed, being tender, crisp and sweet. "New York" is a hardy, rapid grower, deep rooted and resistant to drought; a slow seeder and sure to head.

Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65, 1b. \$5.00

## HANSON

## Improved Hard Heading Stock

One of the very best. Heads green outside and white inside; grow to a remarkable size, very solid, and is deliciously sweet, crisp and tender. It withstands the hot sun well.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50

## GRAND RAPIDS

## For Early Forcing

As a Lettuce for greenhouse forcing, this variety undoubtedly stands at the head of the list. Of quick growth, and stands for some days after being fit to cut. The plant is upright, and forms a loose head or cluster of large, light yellowish green leaves, slightly crimped and blistered, rather thin, good flavor, crisp and tender. It will stand shipping better than most curled sorts.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$   
1b. 65c, 1b. \$2.00

## WHITE PARIS CO.'S

Oval heads of upright growth; tender and crisp.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb.  
60c, 1b. \$1.75.

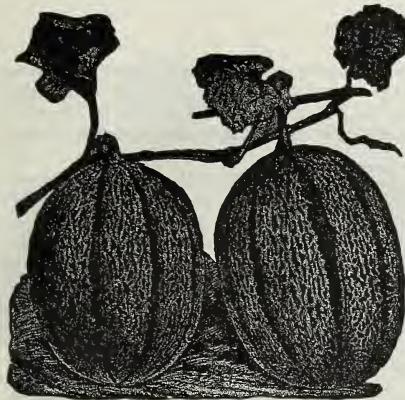
## BROWN DUTCH

Forms a large, solid head sweet, tender and of good flavor. Outer leaves are tinged with brown. It is very hardy.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50



*Grand Rapids*



### BURRELL GEM The Perfect Melon for Market or Home Gardens

"Burrell's Gem" has a tough, thin rind, well arched ribs, covered with a closely interlaced gray netting; shape elongated, being about  $4\frac{1}{2}$  inches in diameter by 6 inches long, flesh of a reddish orange, very thick, fine grained and spicy, seed held firmly in a triangular cavity. This is the secret of a good shipping melon. If the seeds shake loose easily a melon will quickly decay.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

### OSAGE, OR MILLER'S CREAM

One of the finest flavored melons in cultivation, and highly recommended. The flesh is of a rich salmon color, very sweet and melting in quality.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

## WATERMELONS

**CULTURE**—Watermelons thrive best on light, well-drained soils, but give good results on any good rich garden soil that is properly drained and cultivated. Plant after the weather is settled and ground warm. Hills should be 8 feet apart each way and with well rotted manure thoroughly worked into each hill. One ounce of seed will plant thirty hills, two to three pounds per acre. Thin to two or three plants per hill.

### TOM WATSON

This excellent new melon is of elongated form, averaging 18 to 24 inches in length, 10 to 12 inches in diameter, has a thin, dark green rind and deep red flesh; crisp and sugary, with a lusciousness and distinctive flavor that makes it one of the finest melons ever produced; is hardy, early and stands handling and long shipment. We consider it a valuable market or home variety.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

### ICE CREAM, OR PEERLESS

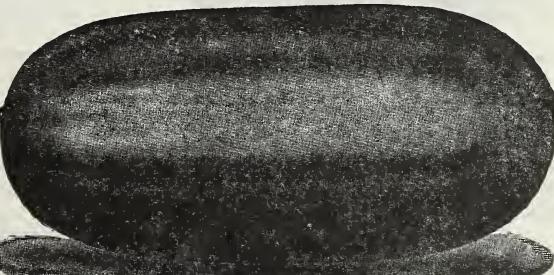
A grand favorite and standard variety. Superior in every respect. Has beautiful crimson core, which is always fine grained; cannot be surpassed in flavor; very prolific.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

### KLECKLEY'S SWEET, or MONTE CRISTO

A splendid sort for home use or near markets. Vine vigorous and productive; fruit of medium size; oval; color dark, mottled green in two shades, forming indistinct stripes. Flesh a beautiful bright rich red; exceedingly sweet and tender.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25



### SWEET HEART

Good shipper. Vine vigorous and productive, ripening its fruit early. Fruit large, oval, very heavy, uniformly mottled dark and very light green; rind thin, but firm; flesh bright red, firm solid, but very tender, melting and sweet. Fruit retains its good quality for a long time after ripening. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### CITRON

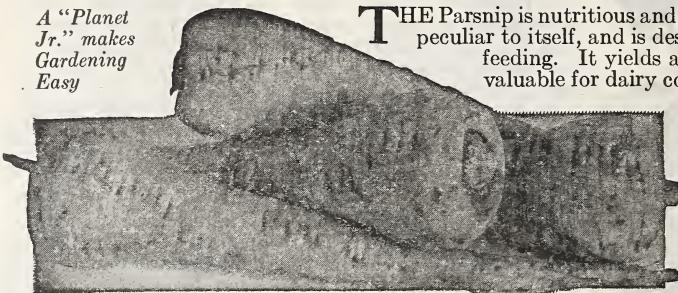
Grown for preserving and pickling.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25



## PARSNIPS

A "Planet Jr." makes  
Gardening Easy



THE Parsnip is nutritious and wholesome, with a sugary sweetness peculiar to itself, and is desirable both for the table and stock feeding. It yields a large crop, and is said to be more valuable for dairy cows than either the carrot or turnip.

### HOLLOW CROWN OR LONG WHITE

Root very long, white, smooth, tender, sugary, and of most excellent flavor. Very hardy; will keep through the Winter without protection.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50

**CULTURE**—As the seed germinates very slowly, sow as early in Spring as possible, in drills 15 inches apart on deeply cultivated rich, loamy soil. Keep clear of weeds and thin to 3 or 4 inches apart. The roots of the parsnip are improved by freezing.

### EARLY HALF LONG

Ready in ninety days. Medium sized, easily dug, has a fine, rich flavor—good for home gardens.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50

## PARSLEY



### PLAIN

Very useful for flavoring soups, meats and for garnishing. The green leaves are used for flavoring or they may be dried crisp, rubbed to a powder and kept in bottles until needed.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, 1b. \$1.25

### EXTRA DOUBLE-CURLED

A fine, free growing, but not large variety. The plants bear a great number of leaves, which are so abundant and so finely curled that they resemble a bunch of moss.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, 1b. \$1.25

### TURNIP-ROOTED OR HAMBURG

The root, which resembles a small turnip, is the edible portion of this variety. Extensively grown and used for flavoring soups, etc.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50

## PEPPER

Sow the seeds early in hotbeds; or later, when the weather becomes warm, in open beds. When two or three inches high, transplant to a warm, mellow soil, in rows eighteen inches apart and a foot apart in the rows. Guano and hen manure are excellent fertilizers and will greatly increase the yield.

**NEW PERFECTION PEPPER**—Perfection is well named, as these perfect peppers are unequaled for quality and sweetness, are large, smooth, with flesh 3 times as thick as in other varieties, and the skin can be slipped off by heating or boiling a little, or you can pare them like you would an apple. Growth is vigorous. Yield is heavy and continuous, bearing until frost. Pkt. 10c, oz. 80c

**RUBY KING**—Very large, sweet and mild; Pkt. Oz. 10c 80c  
bright scarlet.. . . . .

**LARGE BELL, or BULL NOSE**—Large, mild, thick fleshed variety. One of the best for stuffed pickles .. . . . .

**CAYENNE**—Pods long; bright red; very pungent and used very largely with pickles when green.

**CHILI**—Pods small and pointed: brilliant scarlet; very pungent when ripe.....



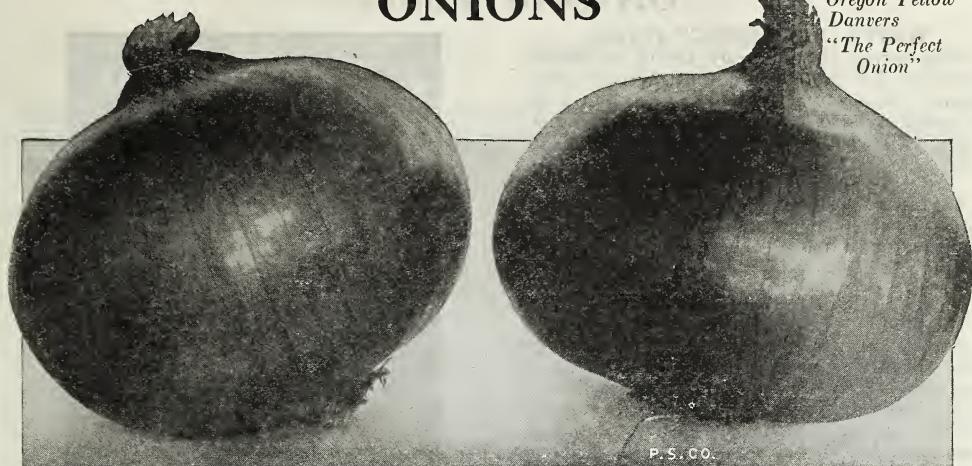
10c 80c

10c 80c

10c 80c



# ONIONS



P. S. Co.'s  
Oregon Yellow  
Danvers  
"The Perfect  
Onion"

**W**E are large growers of Onion Seeds and Sets, and for years have been specializing on varieties that attain their greatest perfection in the Northwest and believe in our "OREGON YELLOW DANVERS" we have the finest type of Danver Onion ever offered, and recommend it to all commercial growers.

**CULTURE**—*For the best results in Onion growing, the soil should be deep and rich, bottom land of rather loose texture being preferred—(beaverdam soil is best).*

*Sow 2½ or 3 pounds of seed per acre, as early in the season as the ground can be put into proper condition, using some good fertilizer such as our special Onion Fertilizer, or manure supplemented with Bone Meal, Muricate of Potash, and in some cases Nitrate of Soda, the latter often being used after the plants are up, while the other fertilizers are worked into the soil before the seed is sown. Hardwood ashes may take the place of the Muricate of Potash.*

*Thorough clean cultivation and thinning during the growing season is necessary.*

*In the Fall the tops of the Onions will naturally fall to the ground and shrivel up and the roots let go their grip on the soil, then the Onions should be lifted and allowed to dry off for a day or two before storing away. If the weather remains too wet to dry off in the fields, the Onions may be put under open sheds for a while where there is a good circulation of air.*

*In case the tops do not die off naturally, they may be broken down and so cause the bulbs to ripen quicker but such Onions will not make good keeping bulbs, and should be disposed of as soon as possible.*

To be sure of a good crop, sow none but the best of seed—it may cost a little more than a cheaper grade of seed, but it is worth more than the difference in the price.

## Portland Seed Co.'s Oregon Yellow Danvers

This type was developed in Oregon and is the standard market variety in this section.

The bulbs are uniformly large, of a half globe form with small neck and have the thin, brownish-yellow skin of the Danver types and the firm, fine grained flesh is very white and mild.

**Oregon Yellow Danvers** produce the largest crops, ripen up hard and early, are the best keepers and bring the highest prices in the Coast markets; and as a table or market onion has no rival.

The seed we offer is produced under the most approved methods of culture and no grower can afford to plant inferior seed when we can supply **Oregon Grown Yellow Danvers**.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 95c, lb. \$2.75

## YELLOW GLOBE DANVERS

This is the type most widely known and used as a main crop variety. A very handsome, round or globe-shaped variety of large size, with thin, yellowish skin, white flesh, fine grained, mild, very firm, and the best of keepers. Ripens early.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 80c, lb. \$2.50

## YELLOW FLAT DANVERS

The Yellow Flat Danvers has all the good points of the Globe but is a true flat type, a good cropper, matures quickly and is a good keeper. Is fine grained, mild and white.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, lb. \$1.75

*The New Planet Jr. Combined Seeder and Wheel Hoe, will sow onions in a straight line and cover them at the proper depth, insuring a good stand without waste of seed. Saves time, saves work both in seeding and cultivating.*

**To grow Onions with the least work and most profit use a Planet Jr.**



## ONIONS—Continued

### WHITE "BUNCHING" ONION

This variety is especially useful to market gardeners for producing an attractive "green onion." The young stalks are crisp and mild, attaining a good size before the bulb forms.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 70c, 1 lb. \$2.25

### LARGE RED WETHERSFIELD

A standard variety; one of the most productive kinds, even in poor soil. Its good keeping qualities render it one of the best for shipping.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 80c, 1 lb. \$2.50

### AUSTRALIAN BROWN

This onion resembles the Oregon "Yellow Danvers" in general appearance, but has a clear amber-brown skin that attracts buyers. It matures early, ripens uniformly, and will keep in good condition longer than any other onion. For late sowing and when necessary to replant, Australian Brown heads the list.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, 1 lb. \$1.75

### WHITE PORTUGAL OR SILVER SKIN

Skin and flesh pure white; mild flavor and flat shape; grown largely for sets.

Pkt. 10c, oz. 30c,  $\frac{1}{4}$  lb. \$1.00, 1 lb. \$3.00

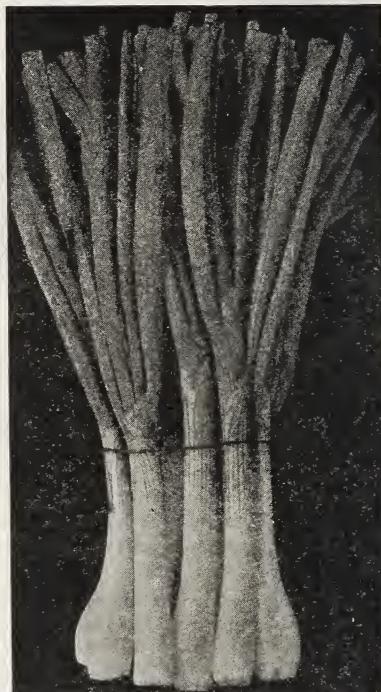
### WHITE BARLETTA

A small pure white, mild onion; fine for pickles. Pkt. 10c, oz. 40c,  $\frac{1}{4}$  lb. \$1.35, 1 lb. \$4.00

### PRIZETAKER—The Genuine The Handsomest and Largest Yellow Globe Onion

Of fine flavor, handsome shape and enormous size. A perfect globe shape, with a bright straw-colored skin; the necks are very small and the onions always ripen up hard.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 85c, 1 lb. \$2.50



Bunching Onion

### QUEEN

If sown thickly, produces small, very firm bulbs, the best of all for pickling; if given more room, matures an excellent onion, that will keep all winter. Pkt. 10c, oz. 40c,  $\frac{1}{4}$  lb. \$1.35, 1 lb. \$4.00

## Onion Sets—Pound Prices Postpaid

### BOTTOM ONION SETS

Small onions grown from seed that has been sown too thickly to attain a large size. The small onions (about  $\frac{1}{2}$  inch in diameter) thus obtained are planted out and are ready in a short time to pull as green onions for the table or bunched for the market. If left to stand they make ripe onions of the best quality, and come to maturity some six weeks earlier than a crop grown directly from the seed. Per lb. 20c

For Garlic, see page 20

### TOP SETS

Produced in clusters.

Per lb. 35c

### SHALLOTS

Valuable for bunching or for an early crop. The smallest sets make fine bulbs of good size, while the larger ones produce a cluster of small to medium-sized bulbs. Light brown skin; mild, white flesh.

Per lb. 35c

### DIAMOND ONION FERTILIZER 100 Pounds to the Acre

Our Free Book "FERTILIZERS" tells things you should know about fertilizers—gives analyses, values and crop requirements—tells what fertilizers are and how to use them

## OKRA OR GUMBO

### IMPROVED DWARF GREEN

Very early, with long, green, slender pods.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  oz. 45c, 1 lb. \$1.25

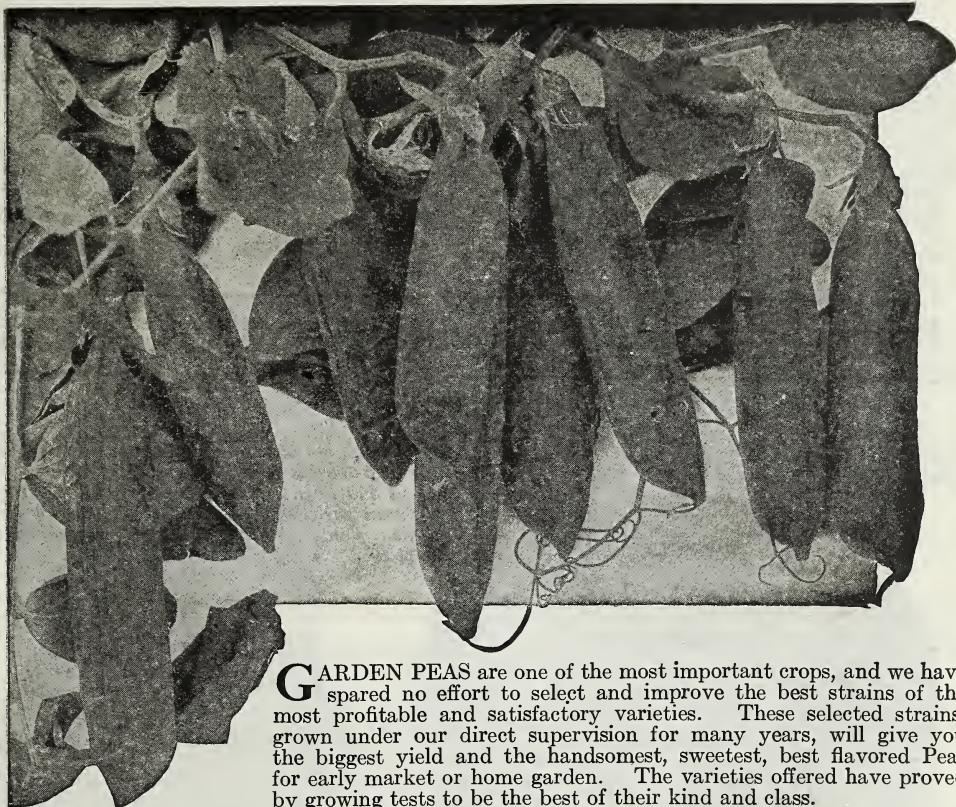
### WHITE VELVET

The large pods are smooth or very slightly ribbed, remain tender a long time.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, 1 lb. \$1.25

## GARDEN PEAS

"Diamond Quality." Selected Hand Picked

Prices on Peas, postpaid: Pkt. 15c,  $\frac{1}{2}$  lb. 25c, 1 lb. 40c, 10 lbs. \$3.50

**GARDEN PEAS** are one of the most important crops, and we have spared no effort to select and improve the best strains of the most profitable and satisfactory varieties. These selected strains, grown under our direct supervision for many years, will give you the biggest yield and the handsomest, sweetest, best flavored Peas for early market or home garden. The varieties offered have proved by growing tests to be the best of their kind and class.

## LITTLE MARVEL

## Splendid New Dwarf Pea for Home or Market

The dwarf, bushy vines averaging 15 inches are loaded with firm, square-ended pods  $2\frac{1}{2}$  to 3 inches long, tightly filled with plump, luscious, deep green peas. "Little Marvel" is as early as "American Wonder," fully equals the superb quality of "Nott's Excelsior," and far outyields these two popular sorts.

## LAXTONIAN

A new, early, dwarf, robust, large podded pea of superior excellence; growth averaging 16 inches. The large pods are well filled, holding eight to ten peas. "Laxtonian" is so highly recommended that you should give it a trial.

## ALASKA, OR EARLIEST OF ALL

A smooth, blue pea, of even, vigorous, growth and extra early maturity. Vines 2 to 3 feet high, unbranched, bearing four to seven long pods, which are filled with medium-sized, bright green peas of excellent flavor. A great favorite with our market gardeners for Fall or early Spring planting.

## PREMIUM GEM

Our select strain of this splendid variety is one of the earliest and best of the dwarf garden Peas. The vigorous, luxuriant vines average about 15 inches in height and are heavily loaded with well filled pods of rich, fine flavored sugary peas. Continues in bearing for a longer period than most varieties in this class. A splendid home garden pea for successive planting and for canning.

## GRADUS

This extra early, wrinkled pea bears pods of large size and combines quality with earliness. It is very hardy; can be planted fully as early as the smooth peas; growth, vigorous and healthy; vines  $2\frac{1}{2}$  feet in height; very prolific. The quality and flavor are delicious and the peas remain tender and sweet for a long time.

## AMERICAN WONDER

One of the most popular and best of the early wrinkled sorts. A great favorite for family use. Has stout, branching vines, covered with well-filled pods containing seven or eight large, exceedingly sweet, tender and well-flavored peas. Height, 10 to 12 inches.



## PEAS—Continued

### Late or Main Crop Varieties

#### TELEPHONE—TALL

#### A Great Favorite with our Market Gardeners

Our Oregon grown selection of this popular favorite and standard market variety is immensely productive, the extra large pods being filled with peas of the finest quality, the luscious sugary flavor not being excelled by any other variety. A strong, rapid grower, averaging 4 to 5 feet.

#### IMPROVED STRATAGEM

One of the best of the large podded peas; the pods are of immense size filled with large, dark green, wrinkled peas of the finest quality; vine of medium height, but very stocky, with very broad, light green leaves, and bearing an abundance of large, handsome pods.

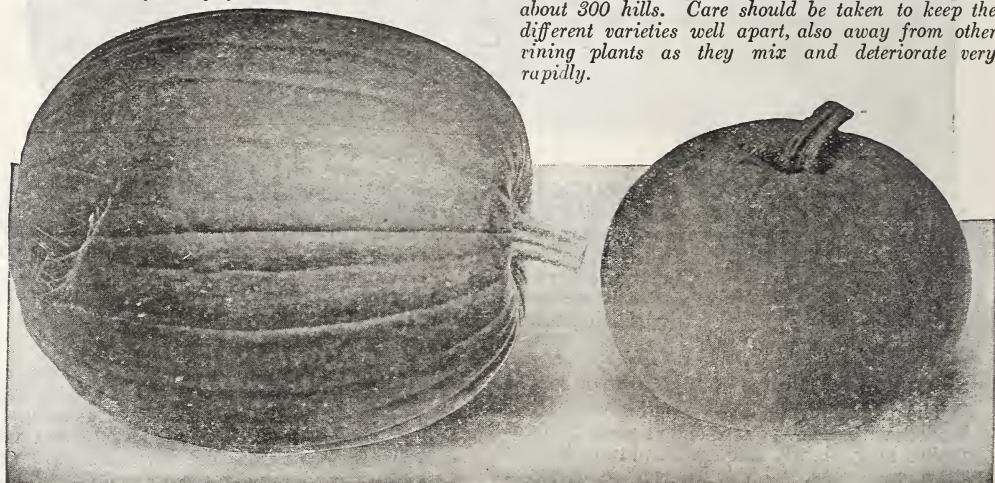
#### YORKSHIRE HERO

One of the largest, sweet, wrinkled kinds; vines strong and spreading; pods of good size and well filled; much in use, and has enjoyed a long popularity; medium late; bears a long time; height, 2½ feet.

**Mulford Cultures FOR Garden Peas** increases the yield, enriches the soil.  
FOR LECUMES Garden size 35c, acre \$1.50, 5 acre \$5.00

## PUMPKIN

**CULTURE**—Pumpkins will grow on any good farm land, but their size and quality will depend on the culture and fertility of the soil. Plant early in May, in hills 6 to 8 feet apart. One pound of seed will plant about 300 hills. Care should be taken to keep the different varieties well apart, also away from other vine plants as they mix and deteriorate very rapidly.



*Sweet or Sugar and Winter Luxury are good Pie Pumpkins*

#### WINTER LUXURY

The best flavored pie pumpkin grown: enormously productive; excellent keeper; medium size; color, golden-russet, finely netted; flesh, deep golden, sweet, tender and very thick; none better.

Pkt. 10c, oz. 20c, ¼ lb. 40c, lb. \$1.25

#### LARGE YELLOW OR CONNECTICUT FIELD

Large, round; deep, glossy yellow. Vines vigorous and very productive; good keeper. Grown extensively for stock feeding.

Pkt. 10c, oz. 20c, ¼ lb. 40c, lb. \$1.25

#### SWEET OR SUGAR

A handsome and productive small pumpkin: skin, orange; flesh, deep yellow, fine grained, very sweet. This is the famous "New England Pie Pumpkin."

Pkt. 10c, oz. 20c, ¼ lb. 50c, lb. \$1.50

#### GIANT OF ALL "King of Mammoths"

This colossal Pumpkin is almost a globe in shape. The skin is of a beautiful, rich golden yellow, flesh firm, fine grained and deep yellow, sweet flavored, very thick and of excellent quality for so mammoth a variety. These Pumpkins attain an enormous size and will carry away prizes at your county fairs.

Large Pkt. 10c, oz. 20c, ¼ lb. 60c, lb. \$1.75

# RADISHES

**CULTURE**—To secure Radishes with crisp, tender flesh, grow them quickly in rich, loose soil, and gather before reaching full size. Our Radish Seed is strictly of the finest grade, being grown from carefully selected roots. Frequent plantings should be made for succession, so that a supply of fresh, tender Radishes in the finest condition may be had at all times.

## EARLY CRIMSON GIANT

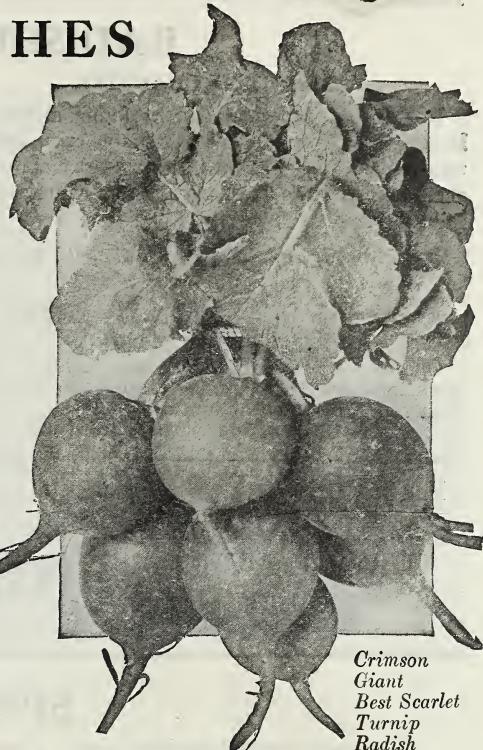
*The Largest Early Scarlet Turnip-Shaped Radish*

A new, early Radish, double the size of any of the turnip-shaped type, but, notwithstanding its immense size, **does not get hollow and pithy**. The flesh is a sparkling white, solid, crisp, juicy and of the **mildest flavor**. The shape of bulb varies from round to almost oval, but the bright, deep crimson color of skin remains quite constant. Excellent for both forcing and open ground. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50

## EARLY SCARLET TURNIP

A small, round, red turnip-shaped Radish, with small top and of very quick growth, very early; rich color and crisp, tender flesh.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50



Crimson  
Giant  
Best Scarlet  
Turnip  
Radish

## EARLY SCARLET TURNIP—White Tipped

A beautiful variety; deep scarlet with white tip. Very early. Has a small top, and may be planted closely. Flesh crisp, tender and sweet. Cannot fail to give satisfaction as a forcing Radish.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50

## EARLY LONG SCARLET, SHORT TOP

This bright scarlet, small topped sort is uniformly straight, smooth, brittle and crisp, and is an excellent sort for private gardens or market use.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, 1b. \$1.25

## LONG BRIGHTEST SCARLET, WHITE TIPPED

This is the brightest and handsomest colored Scarlet Radish known. The lower third of the root is snow white; very attractive. Extra early and flesh very tender. Valuable for forcing or open ground.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, 1b. \$1.25

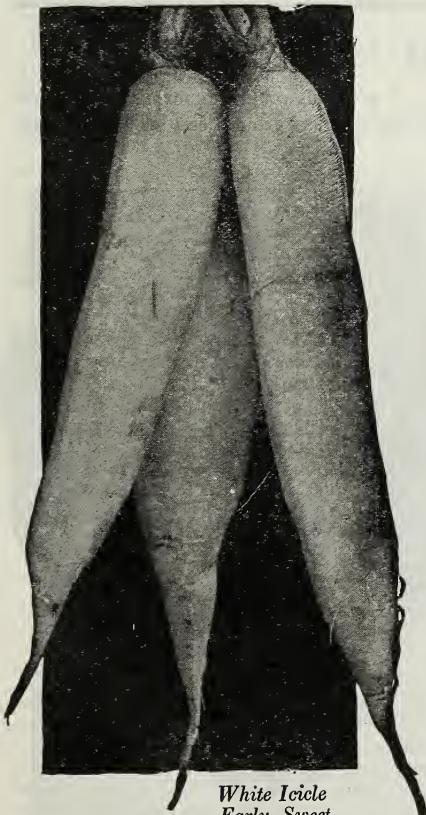
## WHITE ICICLE

This superb Radish is the finest and longest of the very early, pure white varieties. Planted in the Spring, is ready for use in twenty to twenty-five days; their long, slender form and pure, paper-white skin are most attractive when bunched for market. This Radish is not only crisp and tender when young but also **retains these qualities until the roots attain large size**; is excellently adapted for forcing purposes or successive sowing in the open ground and gives a continuous supply of tender, crisp Radishes for the table or market throughout the season.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, 1b. \$1.75

## EARLY SNOWBALL

Grand improvement on the White Box or White Turnip Radish, so popular for several years. Handsome in shape, very early, and has but few leaves, is of a clear white color, solid, juicy, crisp, tender and unsurpassed in flavor. A good sort for forcing. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50



White Icicle  
Early, Sweet  
and Crisp



## RADISHERS—Continued

### IMPROVED CHARTIER

Roots long, tapering, and attaining a very large size. Of rapid growth; remains crisp and tender until fully grown. Color, scarlet above shading into white at the tip. Flesh white and mild flavored.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### FRENCH BREAKFAST OR HALF LONG

Medium size, quick growth, crisp and tender; lower end and taproot white.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

### LADY FINGER, OR WHITE VIENNA

Of rapid growth and beautiful shape. Skin and flesh snow-white; very juicy, firm, crisp and tender; the finest of Long White Radishes.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

## Winter Radishes

### CHINA ROSE WINTER

One of the best Fall and Winter varieties; a favorite with market gardeners, bright rose color; flesh white, firm and of superior quality.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

### BLACK SPANISH LONG

Standard Winter sort; has good flavor and keeps well.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

You can control

**ROOT  
MAGGOT**  
with



Easily applied, inexpensive, not harmful to plant life; but a valuable fertilizer and stimulant in powder form.

**Absolutely Protects CABBAGE,  
RADISHERS, TURNIPS, ONIONS, ETC.**  
FOR PRICES SEE SPRAYS

## SPINACH

This is an important gardener's crop, of easy culture. For Spring and Summer use, sow either broadcast or in drills one foot apart and one inch deep, as early as the ground can be worked, and every two weeks for a succession.

### SAVOY LEAVED—BLOOMSDALE

Very early; of upright growth; leaves pointed. Plant in the Autumn for Spring use; grows quickly.

Pkt. 10c,  $\frac{1}{4}$  lb. 25c, lb. 75c

### NEW ZEALAND

A good summer variety, as when once established by early planting resists heat. Leaves soft, thick and fleshy. Differs in appearance from other varieties but is prepared in the same manner.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 75c, lb. \$2.25

### IMPROVED THICK LEAVED

Variety which grows very rapidly, forming a cluster of large, very thick, slightly savoyed leaves of fine color, and quality when cooked. Best for market gardeners.

Pkt. 10c,  $\frac{1}{4}$  lb. 25c, lb. 75c

### PRICKLY WINTER

Harikest variety; must be sown in the Fall; seed prickly; leaves long, pointed, thick and succulent. Pkt. 10c,  $\frac{1}{4}$  lb. 25c, lb. 75c

### LONG STANDING

An improved variety for general use; large, fleshy savoyed leaves remain in an edible condition over a long period, being very slow to go to seed. Pkt. 10c,  $\frac{1}{4}$  lb. 25c, lb. 75c



## TOMATOES



THE NEWER types of hardy, prolific Tomatoes are better adapted to the cool Coast climate than the older sorts and splendid crops are now being grown where heretofore it was thought Tomatoes would not thrive. A good plan is to try several varieties and find which is best suited to your special conditions.

**CULTURE**—Sow early in hotbeds, and as soon as they have four leaves transplant into shallow boxes. Harden off, and set out as soon as danger of frost is past. An ounce of seed will produce 3,000 to 4,000 plants. If blight appears use "Bordeaux" but it is better to use as a preventative before blight strikes the plant, and as a control measure for flea beetles, spraying the under side of foliage.

**JOHN BAER (Originator's Stock)**

This variety is the result of fifteen generations of breeding; it produces perfect, solid, high crown, brilliant red tomatoes. They ripen ten days before Earliana, bearing 50 to 100 fruits per plant. The flavor is deliciously sweet. The plant will stand plenty of fertilizer without going to vine. Keeps well; is a good shipper; a prolific, continuous bearer, and has the unusual and remarkable feature of being easily peeled, the skin slipping readily from the rich, firm flesh. Resistant to wilt and other diseases.

Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65

**COMET—FORCING**

The very best forcing variety and a general favorite with greenhouse growers. Color is a beautiful scarlet; fruits are of good size, very smooth and uniform.

Pkt. 10c, oz. 50c

**NEW STONE**

Popular with canners, growers and market gardeners. Its solidity and carrying qualities are remarkable. Color a desirable red. In shape, perfectly smooth and thicker from stem to blossom end than most varieties, making it very handsome and salable.

Pkt. 10c, oz. 45c,  $\frac{1}{4}$  lb. \$1.35



**CHALK'S EARLY JEWEL**

Large, bright red, smooth, round fruits, very deep and colored evenly up to the stem; very solid, almost seedless and of the finest flavor.

Vines are vigorous, not subject to blight, and yield fully equal to or better than Earliana.

We recommend Chalk's Early Jewel as the very best early Tomato for either market or home gardens, as it has given us uniformly better satisfaction under the varying conditions of soil and climate in the Northwest.

Pkt. 10c, oz. 45c,  $\frac{1}{4}$  lb. \$1.25

**BONNY BEST**

Bonny Best has given splendid results wherever tried and being early, hardy and very productive can be recommended for outside planting wherever tomatoes can be grown. It is also a good forcing variety. Fruit smooth, round, slightly flattened, solid and of a bright scarlet. Quality excellent.

Pkt. 10c, oz. 45c,  $\frac{1}{4}$  lb. \$1.25



**SPARK'S EARLIANA**  
**One of The Earliest Tomatoes**

Of large, uniform size and beautiful red color. Ripens thoroughly all over, the stem end coloring up perfectly. Almost seedless and very solid. A most vigorous grower and heavy bearer, continuing until frost. Succeeds everywhere, and especially recommended for this Coast.

Pkt. 10c, oz. 45c,  $\frac{1}{4}$  lb. \$1.35



## TOMATOES—Continued

### LIVINGSTON GLOBE

#### One of the best Early Tomatoes Hardy and Blight Resistant

Fruits are of large, even size; very early; ripen clear through and are always smooth, firm and round, with solid meat and few seeds. Color is a beautiful glossy, rose-tinted purple; very productive. Livingston's Globe is of delicious table quality and will keep longer than any other tomato. Is also an excellent forcing variety.

Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.50

### DWARF CHAMPION

Dwarf, upright growth; smooth, purple fruit. Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65

### NEW—CARTER'S SUNRISE

A very early English variety of fine flavor and healthy, vigorous growth, with solid flesh and few seeds; very even, smooth and shapely. Color, bright, rich scarlet. Is also one of the best forcing varieties.

Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65

### GOLDEN QUEEN

A first-class, large, smooth, pure yellow tomato. Pkt. 10c, oz. 50c,  $\frac{1}{4}$  lb. \$1.65

### YELLOW PEAR

A small pear-shaped tomato, borne in great profusion, vine literally covered with large clusters of fine, solid fruits; excellent for preserving, and for use in salads and cooking is superior, as flesh is not watery. Very hardy. To this class belongs Yellow Plum and Yellow Cherry. All same price.

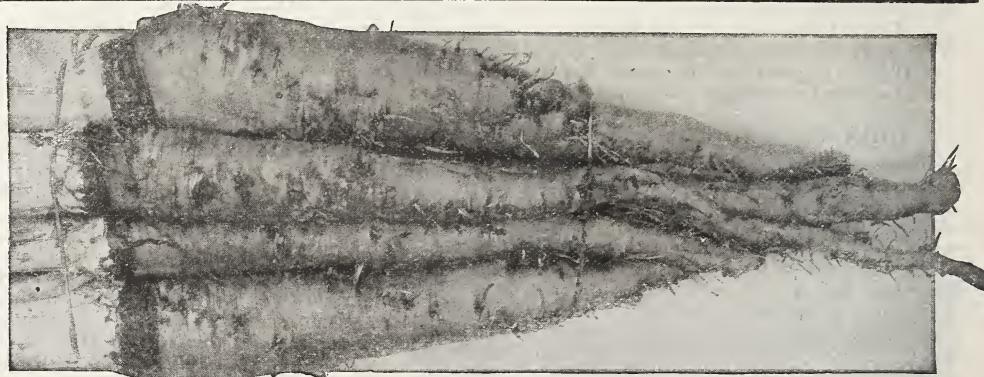
### GROUND CHERRY OR HUSK TOMATO

Grows to great perfection under ordinary culture, yielding abundantly; very much prized for preserving; should be in every garden.

Pkt. 10c, oz. 75c,  $\frac{1}{4}$  lb. \$2.50

## Tomato Plants

STANDARD VARIETIES FOR SEASONABLE DELIVERY—FINE, HEALTHY TRANSPLANTED AND POT GROWN PLANTS—Safely packed and shipped to any point in the Northwest. See Plant Dept.



## SALSIFY or Vegetable Oyster

Salsify is a nutritious and wholesome vegetable, having the appearance of a small parsnip in flavor closely resembling oysters, for which it is, in that respect, a good substitute. It is rapidly coming into more general use.

CULTURE—Sow early in Spring, in drills a foot apart, and when 2 or 3 inches high thin to 3 or 4 inches. Its general culture is the same as that recommended for carrots. The roots are perfectly hardy and may remain in the ground during Winter, or may be stored in dry earth or sand.

MAMMOTH SANDWICH ISLAND—The leading variety; produces a large crop of straight, smooth roots.

Pkt. 10c, oz. 30c,  $\frac{1}{4}$  lb. 90c, 1b. \$2.75

## TOBACCO

CULTURE—Sow the seed thinly in beds, as early as they can be well prepared. Cultivate thoroughly, transplanting when 6 inches high to rows 4 feet apart each way.

### CONNECTICUT SEED LEAF

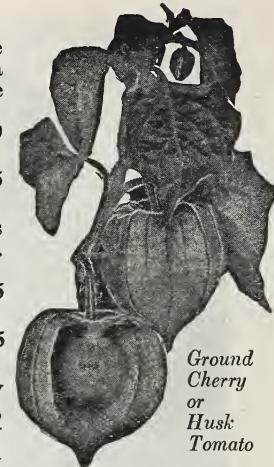
Hardy, and the best adapted to cool localities.

Pkt. 10c, oz. 75c

### HAVANA

Of fine texture and delicate flavor.

Pkt. 10c, oz. 75c



Ground  
Cherry  
or  
Husk  
Tomato

"TomatoCulture"  
By Littooy  
40 cents, postpaid

## "Diamond Quality" SQUASH



P.S.60.

and growth hastened by the application of our Diamond Fertilizer. Dusting the young plants thoroughly with "Corona" Dusting Powder, including the stem where it enters the soil, will often save them.

### Summer Varieties

#### MAMMOTH WHITE BUSH SCALLOP

The best Summer sort for the home garden or market; very productive and of good size.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, 1b. \$1.25

#### IMPROVED HUBBARD

The best seller and most popular variety on our list. Rind dark green, warty and very hard. Flesh light orange, very dry, sweet and rich flavored. Has no superior. Long keeper.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50

#### MAMMOTH CHILI

The largest of all Squashes, growing to an enormous size, often weighing over 200 pounds, while its rich, fine flavored flesh insures its value for all purposes. Its size makes it valuable for stock feeding.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, 1b. \$1.75

#### BANANA

The squash grows from one to 2 feet in length. The skin varies from a bright yellow to a dark olive green. Flesh firm and solid, of beautiful orange-yellow and excellent quality. It keeps from one season until another. When quite young it is excellent to cook as a marrow. Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 80c, 1b. \$2.50

**CULTURE**—The plants are very tender and sensitive to cold, and planting must be delayed until settled warm weather.

The general principles of culture are the same as those given for cucumbers and melons, but squash is less particular as to soil. The Summer varieties should be planted four to six feet apart each way and the winter sorts eight to ten feet. Three plants are sufficient to a hill.

To protect from beetles, young plants should be screened,

### Winter Varieties

#### GOLDEN HUBBARD

The same in size, shape and quality as the well known Hubbard Squash, except that it is a bright red or golden color, and somewhat earlier. Good keeper.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 65c, 1b. \$2.00

#### BOSTON MARROW

Skin yellowish, very thin; flesh dry and fine grained; of unsurpassed flavor.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, 1b. \$1.25

#### SIBLEY OR PIKE'S PEAK

Shell smooth, thin and of a pale green color the flesh is thick, solid, deep orange color; very dry, fine grained with a delicate flavor.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, 1b. \$1.50





# TURNIPS

**CULTURE**—For early use sow the small sorts as soon as the ground can be worked in the Spring, in drills 14 inches apart. As the seed is very fine, it should be covered but slightly, except in very dry weather. For Fall and Winter use, sow the early kinds during July, August and September.

## Early Garden Turnips



### EARLY PURPLE TOP MILAN

This variety is ready for the table sooner after planting than any other yet introduced. Top small, erect, strap-leaved; bulb a deep purple above, white underneath; flesh white, firm and delicate. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, lb. \$2.00



### EARLY WHITE MILAN

Same as Purple Top Milan, but pure white, sweet and tender; best early market variety.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c, lb. \$2.00

### PURPLE TOP STRAP LEAF

A leading white-fleshed variety, and one of the best, either for the family, market garden or field crop. It is medium size, and produces a large crop. The flesh is firm but tender, and of a superior rich buttery flavor. A good keeper.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb 35c, lb. \$1.00

## Main Crop Turnips

### COWHORN

Sometimes called Long White. Slightly crooked. Pure white except a little shade of green at the top. Grows half out of the ground and is of very rapid growth. Is delicate and well flavored. Has proved itself one of the best stock turnips ever introduced in Oregon; an immense yielder. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.50

### POMERANIAN WHITE GLOBE

One of the most productive kinds, and in good, rich soil, roots will frequently grow to 12 pounds in weight. It is of perfect globe shape; skin white and smooth; leaves dark green and of strong growth.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 35c, lb. \$1.00

### PURPLE TOP WHITE GLOBE

A large, globe-shaped variety: purple above the ground. It is handsome and of excellent quality; recommended both for family garden and field crop.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 35c, lb. \$1.00

## TURNIPS—Ruta Baga or Swede

For feeding stock in Fall and Winter there is nothing superior to Turnips or Ruta Bagas, as they are much liked by all kinds of stock and serve to keep them in good condition. A profitable crop.

### IMPROVED AMERICAN PURPLE TOP

The leading variety; large, immense yielder. Superior in every way.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### MONARCH OR TANKARD

Very solid, fine grained, of fine flavor; grows well out of the ground and yields large crops.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

## Cut Worm Food

Protects Tomatoes, Cabbage, Melons, Cucumbers and Other Plants—easily applied—inexpensive. Price, 1-lb. pkg. 35c

### EARLY WHITE FLAT DUTCH

One of the very best and most universally grown. Small, erect top, round, flat; flesh white firm, but very tender and sweet. Of quick growth, it is soon ready for the table and keeps well. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 35c, lb. \$1.00

### EARLY SNOWBALL

Early round turnip, maturing in seven weeks, is of perfect form, snowy whiteness, crisp, solid, fine flavor.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### GOLDEN BALL

Undoubtedly one of the most delicate and sweetest yellow-fleshed turnips yet introduced. Not of large size, but firm, hard and most excellent flavor. Keeps well and is superior as a table variety. It is extensively used by market gardeners. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c, lb. \$1.25

### LARGE WHITE NORFOLK

A white variety, usually attaining a very large size. Extensively grown for stock feeding. The leaves are also used for greens. It is hardy and may remain in the ground all Winter. Yields very large crop.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### WHITE EGG

Is perfectly smooth, of a pure, clear white, growing half out of the ground, and at times to the size of a Ruta Baga, being a very choice kind for table use; of excellent flavor; sweet and mild. Pulls clean from the ground, thin, snow-white skin. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### YELLOW ABERDEEN

Round, medium size; light yellow. Produces a large crop; is hardy and keeps well; flesh very firm but tender and sweet. A great favorite with the dairymen.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### SKIRVING'S

Enormously productive; flesh yellow, solid and sweet. Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

### WHITE SWEET RUSSIAN

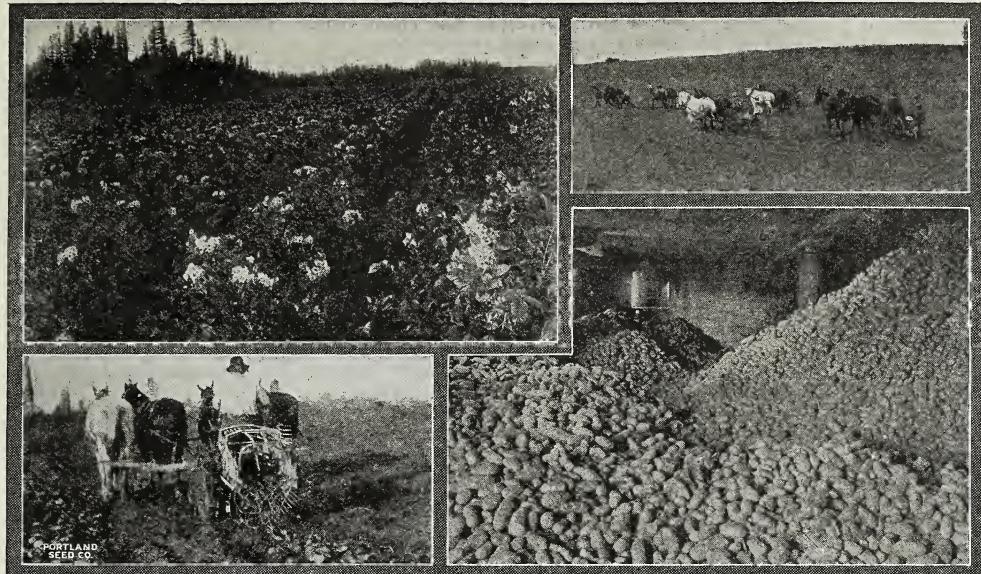
Excellent for table or stock. Very large size; white, solid, sweet and rich; keeps well.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c, lb. \$1.25

Magotite Prevents Root Maggots



# SEED POTATOES



*Views of seed crop of "Multnomah"*

POTATOES are of such great economic importance as a food, give quick, sure, cash returns and are so valuable in crop rotations that our experience as growers may be of interest and helpful to others at this critical time when there is a general awakening to the necessity for better cultural methods, standardization of crops and above all a systematic selection of seed.

Unfavorable growing conditions in many sections and the urgent necessity for food conservation have made it plain that some action must be taken to improve the quality and increase the average yield.

## IMPORTANCE OF SELECTION

Two potatoes of equal appearance selected from the bin or pile may not produce the same general results, for the reason that the tendency is to reproduce the characteristics of the hill instead of the individual tuber, hence the selection of one good potato from an otherwise poor hill will not give the results that a potato of the same general appearance from a good heavy yielding hill. Small potatoes as a rule come from poor hills, and if planted tend to produce small potatoes and poor hills.

Ample evidence that potatoes do not "run out" under normal conditions is furnished by some of our standard, well known varieties, such as Burbanks, Garnet Chili, Early Ohio and Early Rose, which for 60 years, in the case of the Garnet Chili, have proven true to type and show great vigor and yielding qualities under favorable conditions, also demonstrating that excellent results are to be obtained by careful selection and good growing methods.

For many years we have been growing Seed Potatoes by careful re-selection and, comparative tests in various sections, have shown that our select seed will produce larger crops and more uniform, salable tubers with average soil and culture and have proven profitable and satisfactory under the conditions for which they are recommended.

## Choosing the Best Variety

There is no one best potato but there are many excellent sorts some of which will prove more profitable and satisfactory for your purpose than others. In choosing a variety of potatoes consider your soil conditions, market requirements, climate and seasons, and history of available seed stock.

We have much valuable data that will be helpful to you in your selection that is free on request.

To secure a ready market and increase your profits you should grow only the best standard sorts that are known to be suited to your soil and are in demand in your market.

The following descriptions have been carefully written from our own experience, with the addition of notes on origin of varieties from Bulletins of the U. S. Dept. of Agriculture.

The illustrations are from our own photographs of average types.

**POTATOES** are as sure and profitable a crop, investment and labor considered, as can be grown. And the varieties we offer (seed stock of our own growing), will produce the maximum yield of shapely salable tubers that will command the highest market prices. *We can tell you the best varieties for your market and soil.*

## GROWING POTATOES

YOU can grow potatoes under most average conditions of soil and care, but for the big yields of shapely tubers that pay big profits it requires soil adapted to potato growing, good seed stock properly planted, and plenty of **cultivating at the right time**. You can make your soil fit by proper rotation and use of necessary fertilizers.

**SOIL REQUIREMENTS AND TREATMENT**—Good Potato soils—those that produce big yields of shapely tubers, having good table and keeping qualities—may be of several different types.

Clay loam, sandy or gravelly loam, silt, wet land and soils heavy in organic matter have all produced excellent potatoes. But only where the drainage is good and the soil well aerated and properly worked can best results be obtained. Given a soil of average fertility drainage is of the utmost importance, next in order being the organic content in the form of humus to retain the moisture and in the case of heavy soils to improve their mechanical condition after proper drainage has been secured. A soil rich in organic matter not only conserves the necessary moisture for the growing crop but is less susceptible to the extreme changes of atmospheric temperatures that are often so unfavorable to growth and development.

**SOIL AND DISEASES**—It is generally recognized that certain soil types are favorable to certain of our common potato diseases and where it is possible to do so, advantage should be taken of this knowledge and extreme care used to prevent the introduction of certain diseases to soil conditions that are favorable to their development.

Rhizoctonia and Black Leg, as examples, develop more freely and cause more loss on heavy wet soils. Scab is more prevalent in soils having an alkaline reaction.

Rhizoctonia is favored by an acid or neutral soil, therefore the alkalinity or acidity of the soil influencing certain diseases can become a factor in their control. The use of lime, producing an alkaline re-action may increase the amount of Scab, while the plowing under of a soiling crop will increase the acidity of the soil and lessens Scab but makes conditions more favorable for the development of Rhizoctonia.

Barnyard manure, bone meal, wood ashes and some of the forms of potash salts are all conducive to Scab and if used should be applied the Season or Fall previous to planting.

**SEED TREATMENT**—Dipping either in a solution of Formaldehyde or one of B-Chloride of Mercury (Corrosive Sublimate) are the two methods generally recommended for treating seed potatoes, as follows:

Formaldehyde, 40% Commercial Solution .....	1 pint
Water .....	30 gallons

Soak the potatoes in this solution for two hours and spread out to dry. This treatment is effective against Scab but as it is not to be depended upon for Rhizoctonia, the Bi-Chloride of Mercury solution is always recommended as it will do all that the Formaldehyde accomplishes and takes care of our most troublesome disease, Rhizoctonia. The Bi-Chloride of Mercury solution is prepared as follows:

Bi-Chloride of Mercury (Corrosive Sublimate) .....	4 ounces
Water .....	30 gallons

Soak the potatoes in this solution from  $1\frac{1}{2}$  to 2 hours and dry before planting.

**SPECIAL NOTE**—In dissolving the corrosive sublimate use a small amount of hot water, about a gallon to the ounce, adding it to the cold water when it is dissolved as it will be impossible to get good results by attempting to mix the entire amount in cold water.

 **WARNING**—The poisonous nature and corrosive action of this solution makes it necessary to use care in handling and to keep the treated potatoes from stock or poultry. Any that are not used should be burned or buried. Make the solution in a wooden or porcelain container as it will corrode metals and rapidly lose its strength.

Both of these solutions will lose strength through use or standing for any length of time and should be made up fresh and not more than four lots of potatoes dipped without renewing the solution. The dipping can be done in bags or crates but the potatoes should then be spread out to dry, care being taken not to re-infect them by using the same bags or containers or spreading them where they would again be in contact with untreated stock.

**GREENING**—After dipping, the seed should go through the process of greening, leaving them spread in the light and warmth when the light will cause them to assume a greenish color and sprouting will begin. Sprouts brought on in this way will be short and thick and the potato will awaken from its dormant condition and develop much more vigor and vitality than potatoes that are not so treated. The greening also is a big factor in eliminating fungus growth and diseases. Another very valuable result from greening is the time gained as the potatoes thus treated will germinate and develop very much earlier than they would otherwise.

**SPRAYING STORAGE HOUSES**—A storage house, cellar or bin should always be sprayed before putting the crop away. The following formulae being recommended—either one of which is easily prepared and applied by the use of any available sprayer or pump.

1 lb. Copper Sulphate to every 10 gallons of water.

The formaldehyde solution is 1 pint to each gallon of water—either of these should prove satisfactory if thoroughly applied.

 **HAND POTATO PLANTERS—POTATO SPRAYS AND SPRAYERS — See Index**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

## EARLY VARIETIES

### Portland Seed Company's "EARLIEST OF ALL"

Can Be Had Ready for Baking 9 Weeks From Planting, Fully Matured in 12 Weeks

ORIGINALLY a selection from Early Eureka introduced by Portland Seed Co., 1908, showing a marked difference in habit and greatly increased yield which years of careful re-selection have firmly fixed and improved. "Earliest of All" is a shallow eyed, white skinned variety of vigorous growth, not subject to blight or disease and does not make a second growth. The tubers are smoother and have fewer eyes than other varieties of this type. The white blossoms also easily distinguish it from Irish Cobbler, which has a purple bloom. Not affected by summer drouths owing to its quick growth and early maturity. Keeps as well as any late potato. **The earliest of all early potatoes.**



*"Earliest of All"*

Prices: 10 lbs., postpaid, \$1.20.

Write for prices in quantities.

 **TO BE SURE** of getting the genuine "Earliest of All" buy direct from our Portland store. Beware of substitutions and varieties that are "just the same."

### EARLY ROSE

Strong, vigorous vines of medium height. Flowers white, rather abundant. Tubers quite smooth, elongated or oblong, stem and seed end rather blunt. Eyes shallow, but sharp and strongly marked; skin thin but tough. Flesh creamy white sometimes streaked with red, solid and brittle, rarely hollow. Our strain of this grand "old timer" is exceptionally good.

Prices: 10 lbs., postpaid, \$1.00. Write for prices in quantities.

### AMERICAN WONDER

One of the earliest and best main crop varieties. Strong grower of branching habit and great producer. Tubers white, large and uniform in size; elongated and slightly compressed. Blooms white; foliage rich dark green. Our stock is of exceptional quality.

Prices: 10 lbs., postpaid, \$1.00. Write for prices in quantities.



*American Wonder*

In justice to our customers we are not cataloging quantity prices on potatoes; but will be pleased to make a firm price on any quantity wanted.

### EARLY WHITE PRIZETAKER

One of the finest of all early sorts; oblong in form, 4 or 5 inches in length, with white, smooth skin and few eyes. It is a very superior cooking potato, baked or boiled, cooking up dry and floury.

**White Prizetaker** has important advantages over other early Potatoes, as its white skin, large size and good keeping qualities make it an ideal main crop variety, that sells at the best price. We always advise early planting, as the crop will be larger and better.

**PRICE, 10 lbs., Postpaid, \$1.00.**

### Fertilizers Increase Yield and Profits

Prof. L. P. Gilmore of the Monmouth Normal School, Monmouth, Oregon, reports an increase of 48 sacks per acre under irrigation and 43 sacks per acre under dry conditions by the use of 500 pounds per acre of P. S. Co.'s **Vegetable Fertilizer**, as follows:

Fertilized—Irrigated.....	219 sacks	Fertilized—Dry Farming.....	110 sacks
Not Fertilized—Irrigated.....	171 sacks	Not Fertilized—Dry Farming....	67 sacks

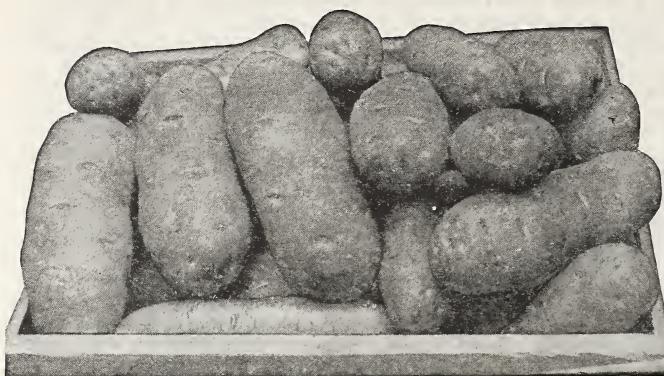
A very interesting point brought out by his experiments is the ratio of increase of the non-irrigated crop as compared to the increase under irrigation. The actual increase being about the same. These trials were carefully made and recorded, and demonstrate the great value of our fertilizers under all conditions.



# MAIN CROP AND LATE VARIETIES

## PRIDE OF MULTNOMAH

*Excels in Yield and Table Quality*



Prices: 10 lbs. postpaid, \$1.00.

Write for prices in quantities.

### BRITISH QUEEN

A standard market potato in southern California, the shape being a flattened oval rather elongated, having few eyes and a beautiful creamy white skin. Abundant foliage and lavender flower—fading to light. The strain we have is the best. Owing to the great yields of this variety being obtained, it is certain to become a leader.

Prices: 10 lbs., postpaid, \$1.00. Write for prices in quantities.

### POTATO GROWERS SHOULD PRACTICE A FOUR-YEAR ROTATION

*Grain, clover, corn, potatoes. Scab and Rhizoctonia are not so troublesome when corn follows clover before potatoes.*



*Netted Gem*

### NETTED GEM

*California Russet, Russet Burbank, Yakima Gem, Idaho Russet, etc.*

A splendid main crop late potato that gives good results in dry sections. Tubers are elongated, medium sized with russet netted skin; flesh white; eyes are flush with surface; good keeper and produces a fine yield. This is the variety grown extensively by irrigation in Washington and Idaho for baking. Our stock is extra choice of the most improved type.

Prices: 10 lbs., postpaid, \$1.00 Write for prices in quantities.

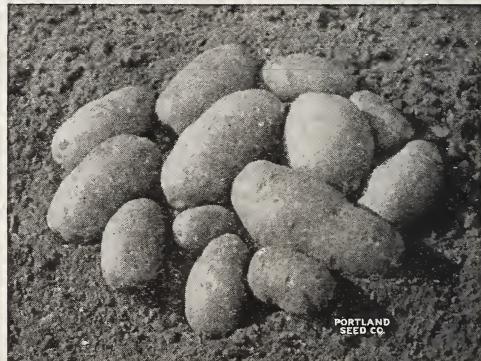


*British Queen*

### BURBANK

A standard commercial variety. Late and very productive. Skin nearly smooth. Eyes rather shallow. Tubers long and slightly flattened. Under proper selection it thrives equally as well now as at any time since its introduction. We offer a select true heavy yielding strain.

Prices: 10 lbs., postpaid, \$1.00. Write for prices in quantities.



*Burbank*



# Our Monthly Planting Calendar for Vegetables

	Under Glass	Open Ground	Setting
ASPARAGUS—All varieties		March to May	Fall or Spring
ARTICHOKE—Globe		March and April	Fall or Spring
BEANS—Bush		May to July	
Pole		May and June	
BEET—Early		March and April	
Late		April to July	
Mangels Sugar and Swiss Chard		April to June	
BRUSSELS SPROUTS		April to June	July to September
BROCCOLI		April to June	July to September
CAULIFLOWER—Early	February	April to June	March and April
Late	March	May and June	May to July
CABBAGE—Early	February	April to June	March and April
Late	March	March and April	May to July
CARROT—Early		April to June	May to July
Late		May and June	
CELERY—Early	February	April and May	April and May
Late		May and June	
CHERVIL		April and May	
CHICORY		April and May	
CHIVES		March and April	
COLLARDS		April and May	
CORN—Sweet Early		May and June	
Sweet Late		May to July	
CORN SALAD		April to June	
CRESS	March	March to June	May to July
CUCUMBER	March	May and June	May to July
EGG PLANT	March	April to July	May to July
ENDIVE		May and June	
HORSERADISH		May and June	
KALE		April to June	March to May
KOHL RABI		May to July	June and July
LEEK		March to May	
LETUCE—Early	February	March and April	April to June
Late	February	April to August	April and May
MELON		May and June	May to August
MUSTARD		March to October	May and June
OKRA		May and June	
ONION—For Dry Onions		March to May	
ONION SETS—For Bunching		March to October	
PARSLEY		March to June	
PARSNIP		March to June	
PEAS—First Early		October and November	
Second Early		March to July	
Late		April to July	
PEPPER	February and March	May and June	April to June
PUMPKIN		April to September	
RADISH—Early	February	May to September	
Winter		April and May	
RHUBARB		April to June	
SALSIFY		April to October	
SPINACH		May and June	
SQUASH—Summer	February	May and June	May and June
Fall and Winter		May and June	
TOBACCO	February and March	March to May	May and June
TOMATO	February to April	April to September	May and June
TURNIP—Early		April and May	
Late		April to May	
Rutabaga		April and May	
HERB SEEDS		April and May	
POTATOES		April to July	

## Hints on Fertilizing the Garden

Where no manure is used the fertilizer should be spread over the surface of the finely prepared seed bed at the rate of five pounds for a plot ten feet square, just before planting. The surface soil should then be thoroughly raked so as to mix the fertilizer evenly to a depth of two inches. Never place seed or transplanted plants in direct contact with fertilizer.

Thoroughly mixing of the fertilizer with the soil is essential to prevent injury of seed or roots.

**Tomatoes, Potatoes, Spinach** and some other crops requiring rather long growing seasons, are materially benefited by a second application of fertilizer when half grown. Side dressings of this kind should be scattered between the rows at the rate of four ounces (one-half pint) to ten feet of row, when rows are spaced two feet apart; and pro rata for rows spaced a greater or lesser distance. To insure even distribution mix the fertilizer with fine, dry earth just before spreading.

**Forcing Growth—Sodium Nitrate** is a very strong stimulant for young growing plants. Vegetables grown for their leaves and stems, like lettuce, cabbage, celery, etc., can be improved by a light application or two of Sodium Nitrate in the early growing period. Nitrate of Soda is readily soluble. Use **one pound to a ten-quart pail of water**. Apply this in small amounts some little distance from the plant. Repeat in from twenty to thirty days.

 Our Booklet "FERTILIZERS" tells what you should know about Fertilizers—what they are for, how and when to apply—and is mailed free on application.



# FIELD AND FARM SEEDS

THESE are many varieties of grasses and forage plants offered by Eastern seedsmen (often under new names) that will not give profitable crops in our climate, and to avoid disappointment, we refer you to the following list, which has been carefully selected and contains the most desirable varieties for general and special purposes.

A careful reading of the following pages will give you much valuable information that has required years of observation and experimenting to obtain.

## IMPORTANT—Read Carefully

Clover, Grass and Field Seeds are subject to market changes, therefore we cannot print prices good for any length of time. When ready to buy, write us for special prices, stating quantity wanted; or send in your order. **We guarantee that we will give you full value for the money sent.** Pound prices quoted are postpaid. Owing to fluctuations in prices, prices given months ahead are oftentimes misleading. **Write for prices.**

**MAMMOTH RUSSIAN SUNFLOWER** has been found to be one of the best silage plants grown. Feeding qualities are high and owing to its great tonnage yield is one of the cheapest feeds obtainable. **Try it.** See page 50.

### ARTICHOKE

Artichoke  
Tubers



Planted and cultivated same as potatoes. Of great value for feeding stock. They are the best hog feed known; are remarkable for fattening properties, great productiveness (over one thousand bushels having been raised on one acre) and ease with which they can be grown. They need not be dug. Turn the hogs into the field, and they will help themselves by rooting. One acre will keep from

twenty to thirty hogs in condition from October until April; highly recommended for milch cows, increasing yield of milk and at the same time improving their condition. Plant ten bushels per acre.

**Note**—Tubers on hand from January to May. Postpaid, 10 lbs. \$1.00; F. O. B. Portland, 100 lbs. \$3.00.

### COW OR THOUSAND HEAD KALE

#### Plants in Season

The great demand for this wonderful forage plant proves it to be the most valuable green feed for Pacific Coast dairy and stockmen; endorsed by Agricultural Colleges and Government Stations. Cow Kale should be grown in the same manner as cabbage. Make the rows 4 feet, plants 3 feet apart in the row. Can be set as late as July. Write for full information on Planting and Feeding.

**A quarter of a pound of seed will produce enough Kale plants for one acre.**

Postpaid, oz. 10c,  $\frac{1}{4}$  lb. 30c, lb. 90c

### BUCKWHEAT

**Buckwheat** is a valuable crop that can be easily grown wherever wheat will grow, producing a good yield even on light or poor soil and under favorable conditions is very profitable, being in big demand for milling—and is also the best "Bee pasture."

Sow 36 lbs. per acre in drills, 48 lbs. broadcast.

**COMMON—Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

**SILVER HULL**—Of a light gray color, rounder than the common; has a thin husk; matures earlier and yields heavily. An excellent milling variety.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

**JAPANESE**—Ripens early—is hardy and yields the largest crops. The grains are extra large, dark brown, very thin hulled and makes the highest grade of flour.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

### If you Milk 2 Cows or more

## Sharples Suction Feed Separator

Will save your time and  
soon pay for itself

We are factory agents for Sharples  
Separators and Milking Machinery

Full information on request

### FLAX SEED

We have a splendid lot of selected recleaned Western-grown Flax, new crop, large plump seed. Per lb. postpaid, 30c. Write for prices.

## Remember

ALL PRICES ARE SUBJECT TO MARKET CHANGES.  
You will always get your money's worth or we will quote on request.



# BARLEY

**B**ARLEY is a shallow feeder, the roots growing near the surface, and requires a rich, mellow soil. Barley responds readily to good tillage and any extra work with the disc and fine tooth harrow will be amply repaid. Do not try to grow upon poor, sandy or wornout soils, or where the ground is not in good condition or well drained. In rotation, Barley follows Corn, Peas, Potatoes, or any cultivated crop, and is the best nurse crop for starting clovers or mixed grasses. Should be planted late after ground is warm and Spring weather settled. Plant two bushels per acre. Crimson Clover planted in the Fall and plowed under after blooming in the Spring, leaves the soil in fine condition for barley.



*Trial Plot of Hannchen Barley, Oregon Agricultural College*

#### NEW—"ODERBRUCKER" BARLEY

This is a Pedigreed strain of 6-row barley, selected and bred by the University of Wisconsin, and is considered the earliest maturing, most prolific of all the barleys. Has a stiff straw, is rust resistant, and owing to its high protein content is a very superior feeding sort. This is the variety that was secured at great expense by the Oregon and Washington Railroad Co. for introduction in their territory. We offer the genuine stock of our own growing.

**Price: 10 lbs. postpaid, \$1.00. Write for prices in quantities.**

#### BLACK HULLESS BARLEY—Bearde Best of grains for feeding or fattening stock. Greater food value than corn.

Black Hulless Barley will grow on the dry Alkali soil where other grains fail. Sow in Fall or Spring as late as June 15, 75 to 100 lbs. per acre. Will yield as high as 75 bushels to the acre, weighing about 70 lbs. to the measured bushel; does not shatter or shell out easily.

When planted in the Fall its abnormal stooling habit and wide succulent leaves make it ideal for late Fall pasture yielding a full crop the next season. Stock prefer and thrive on it.

**10 lbs. postpaid, \$1.00. Write for prices in quantities.**

#### WHITE HULLESS OR BALD BARLEY Beardless

An early Spring variety—beardless, of high feeding value, said to exceed corn as a pork producer. Can be fed to all live stock—especially valuable used in a mixed ration. Grain plump, heavy and when threshed is hulless like wheat. A heavy cropper. When grown and cut for hay it produces a magnificent fodder, which is very rich and almost equal to a grain feed. Culture same as Common Barley.

**10 lbs. postpaid, \$1.00. Write for prices in quantities.**

#### HANNCHEN BARLEY

Hannchen is the earliest and best of the 2-rowed barleys, is drought resistant and a sure and heavy cropper. The seed stock we offer was grown from seed secured from the Oregon Agricultural College. We call special attention to the plumpness of the seed, thinness of the hull and the ease with which the beards break off. It frequently happens that these beards drop in the field before harvest. Although a Spring Barley the United States Department of Agriculture has successfully grown Hannchen Barley from fall seeding where the winters are mild.

**Price: 10 lbs. postpaid, \$1.00. Write for prices in quantities.**

#### BEARDLESS BARLEY

Straw is about the height of the Common Barley, but better, and will stand up on any land; our seed crops have averaged 65 bushels per acre in dry unfavorable seasons. Sow as early as you can; frost does not hurt it. Many farmers will not grow Barley on account of the long, harsh beards which are so disagreeable in threshing although it is a profitable crop. This is as nearly beardless as seems possible to obtain, as beardless barleys show a tendency to produce a small percentage of bearded heads; it is about as easy to grow and handle as oats, and is the most Popular Barley grown.

**10 lbs. postpaid, \$1.00. Write for prices in quantities.**

#### COMMON BARLEY

We always aim to have a nice, clean stock of good Seed Barley on hand at all times. This is the common 6-row bearded type.

**10 lbs. postpaid, \$1.00. Write for prices in quantity.**



# FIELD CORN

PORTLAND  
SEED CO.

**SIXTY-THREE PER CENT** of the feeding value of a matured corn plant is in the ear. Corn to mature properly must be adapted to the section where grown, requiring several seasons of intelligent care and selection.

**Oregon Grown Corn** being thoroughly acclimated will give splendid satisfaction under the conditions and for the purposes recommended—we have large stocks and can supply any amount at very reasonable prices.

**CULTURE**—*Thorough preparation of the soil is necessary for best results, methods of culture being determined by the different conditions of soil, climate, moisture and previous crops. The ideal soil is a deep warm one with a little sand, well drained and with sufficient humus to hold the moisture.*

*Deep plowing is always necessary for best results, and the heavy soils on the West side of the Cascades will give best results from Fall plowing, repeating in the Spring before seeding time. A liberal amount of stable manure and thorough tillage will help offset the cold nights. For best results when planted for grain, plant in hills 42 inches apart, allowing two stalks to the hill. For fodder or silo, three stalks, if the ground is rich.*

*For East of the Cascade Mountains—quoting "Farmer Smith"—"Where rainfall exceeds 12 inches and Corn is to follow Wheat, roll the stubble with corrugated roller right after harvest; then after first heavy rains, disc crossways of the rolling. If open weather, plow or disc thirty days later, allowing to lay in the rough until Spring. Ten loads of stable manure put on during the Winter or Fall will prove helpful. In the Spring when ground can be worked, disc and harrow every two weeks until May 1st, then plow deep, discing every day's plowing and harrow, roll or clod-crush to a fine well-packed surface. List 6 inches deep in 42-inch rows, kernels 12 to 14 inches apart in the rows. If Lister is not available, plant at bottom of 6-inch furrow made with a stubble plow. Five days after planting, harrow with slanting spike tooth harrow, repeating every week until Corn is 4 to 6 inches high, then continue cultivating until in tassel."*



## OREGON GROWN YELLOW DENT

By careful and continued selection this splendid corn has become acclimated and perfectly adapted to the short seasons of the Northwest and will mature fully every year if planted at a seasonable time. The table quoted from the New York Experiment Station report gives definitely the values of mature and immature corn, showing the loss when the crop is not ripened. (See page 45.)

**Oregon Grown Yellow Dent** makes a quick growth with abundant foliage, maturing early and gives a good grain yield and will make silage of the highest food content. Especially adapted to the Willamette Valley and irrigated valleys of the Pacific Northwest. **Price per lb. 25c, 10 lbs. \$2.00**

**Always remember that corn increases in food value and digestibility as it reaches the ripe stage— while other forage crops become more difficult of digestion and lose much of their food value as they ripen.**



## FIELD CORN—Continued

All sorts of field corn 10c per package; prices per 100 pounds on request



### NORTHWESTERN DENT

This is a red corn with yellow dent or cap, and in high altitudes and the Northern sections where seasons are short will often mature a crop when other varieties fail. Owing to its frost and drought resistance, its extreme earliness and rapid growth make it valuable for late planting and for replanting. Ears are 7 to 10 inches, closely filled; grows 7 to 8 feet high. Splendid for silage. We have secured acclimated seed grown from the original stock. **1 lb. 25c, 10 lbs. \$2.00**

### HARTMAN YELLOW DENT CORN

"Hartman" is now considered a standard Dent Corn for grain west of the Cascade Mountains, and is also good for silo. Cob is small, ears medium to large, stalk light, allowing close planting. **1 lb. 25c, 10 lbs. \$2.00**

### MINNESOTA KING (DENT)

Smallest cob and largest grain. The ears are uniformly well filled out. Golden yellow and a good yielder, being a safe corn to plant west of the Cascades. **1 lb. 25c, 10 lbs. \$2.00**

### PRIDE OF THE NORTH YELLOW DENT

Pride of the North has long been the standard Corn recommended by the Agricultural Stations as the best Yellow Dent for Eastern Oregon, Washington and Idaho, and our Oregon grown seed has given splendid results whenever conditions have been at all favorable, maturing early and yielding heavily, the foliage being luxuriant and of medium height. "Pride of the North" is specially recommended for silo. **1 lb. 25c, 10 lbs. \$2.00**



### MINNESOTA No. 13 YELLOW DENT

The earliest of the early Yellow Dent corns and reported to be the heaviest yielding, producing splendid large ears, closely filled from end to end with bright yellow kernels. Has rather a thick cob and the shelled grains have a tendency to irregularity. "Minnesota No. 13" will average 7 feet high and being a rapid, vigorous grower, with heavy foliage, makes a fine fodder corn, and is especially recommended for ensilage west of the Mountains. Will mature in ninety days under favorable conditions.

**1 lb. 25c, 10 lbs. \$2.00**

### EARLY CANADA (FLINT)

An eight-rowed Yellow Flint Corn; early and very productive. **1 lb. 25c, 10 lbs. \$2.00**

### CHAMPION WHITE PEARL

A large, White Dent variety; very popular with our dairymen on account of the great amount of green feed it makes.

**1 lb. 25c, 10 lbs. \$2.00**

### WHITE FLINT

This valuable variety is specially adapted to Northwestern conditions. It is earlier than the well-known "Eight-Row Canada," and is to be preferred on account of its color, productiveness and very early ripening. **1 lb. 25c, 10 lbs. \$2.00**

### KING PHILIP

An early Red Flint Corn; well acclimated and well known.

**1 lb. 25c, 10 lbs. \$2.00**

### WHITE RICE

Pop Corn. Best variety for popping corn. For Seed, per lb. 25c. For Popping, per lb. 15c

### COMPARATIVE FOOD VALUE OF CORN

As an economic feed crop, Corn is without a peer. Twenty to thirty tons of silage per acre are within the reach of every corn grower who will plant good seed, fertilize wisely and cultivate diligently. Land that is producing three to four tons of hay will produce double this amount of feed planted to corn. Progressive farmers are realizing these facts and the corn acreage is increasing rapidly from year to year.

To realize the full value of a corn crop the whole plant must be utilized. The silo is the best storehouse for this crop. Corn cut when fully matured but not over-ripe, and put in the silo saves the maximum amount of feed per acre. In sections of light rainfall after harvest time the corn may be cut and cured in the shock and fed dry as fodder. There is considerable loss from this practice, but yet the feed produced on an acre would much more than equal the hay produced.

Dry corn fodder can be run through the silage cutter and by applying water a fair grade of silage can be made.

### REPORT OF NEW YORK EXPERIMENT STATION—ONE ACRE OF CORN

	Weight of Total Crop	Water	Dry Matter	Starch
July 30 (fully tassled) . . . . .	9.0 tons	8.2 tons	.8 tons	122.2 lbs.
August 9 (fully silked) . . . . .	12.9 tons	11.3 tons	1.5 tons	491.3 lbs.
August 21 (kernels, watery to milk) . . . . .	16.3 tons	14.0 tons	2.3 tons	706.7 lbs.
September 7 (kernels glazing) . . . . .	16.1 tons	12.3 tons	3.6 tons	1735.0 lbs.
September 23 (ripe) . . . . .	14.2 tons	10.2 tons	4.0 tons	2852.0 lbs.

Other nutrients increase in amount in about the same proportion with the exception of protein, which reaches its maximum amount before maturity.

For silage cut when kernels are glazed and well dented, at which time more than 50 per cent of the feeding value is in the grain.

*The Acme Automatic One-hand Corn Planter* *Puts the right number of kernels just where you want them and at the proper depth. Works equally well with right or left hand.*



## CLOVER AND ALFALFA SEEDS

Write for prices on 100 lbs. or ton lots. They are always subject to market changes.  
Single pound prices postpaid.

### Alfalfa or Lucerne Clover

**ALFALFA** should be cut for hay when the shoots of the next crop appear at the base of the plants. The hay is especially valuable for dairy cows. As soon as cut it immediately commences to grow and during the hottest and driest weather, when other grasses are parched and withered, it remains fresh and green and grows as rapidly as ever. On the low lands it is not an unusual thing to harvest five or six crops of hay from the same field in one season without irrigation, and the same result is obtained on high, dry lands where irrigation is resorted to. It will not succeed on hard, clayey soils. Its roots, in seeking moisture, penetrate to incredible depths. The seed should be sown in the Spring, after danger from freezing the young plants is over, or in the Fall, early enough to give it a good stand before frost.

Many Alfalfas are widely advertised, such as Grimm, Baltic and the Peruvian varieties. The Grimm and Baltic are yet scarce, high in price, and reliable stock difficult to secure. The Peruvian has given good results in the South and is worthy of a good trial in this section. The domestic acclimated seed we offer can be depended upon to give splendid satisfaction.

### Grimm Alfalfa

**Grimm Alfalfa** is the hardiest Alfalfa known. In trials, at practically every Experiment Station in the West and Northwest, it has headed the list for vigor and hardiness.

**Grimm Alfalfa** has a branching fibrous root system which makes it better adapted for dry lands and irrigated lands of shallow depth of soil. Being an early vigorous grower it gives heavier cuttings and larger total yield in sections of short growing seasons.

The stock seed of Grimm Alfalfa dates back to 1857 and was brought from Europe by Grimm who settled in Minnesota. From this small start Grimm Alfalfa has been distributed and become established in sections where other Alfalfas would not thrive and it is from these plantings that the present seed supply is drawn. Being scarce and in big demand the price is high but the value of Grimm has been demonstrated beyond question and we recommend its trial.

Price per lb. 70c, postpaid. Write for prices in quantities.

**DRY LAND ALFALFA**—Dry land Alfalfa will produce large, profitable crops of hay and excellent pasture on the high, dry lands of Eastern Oregon, Washington, Idaho and Utah and is especially recommended for the hills and plateaus where irrigation is impossible. It comes from the highest, driest alfalfa sections, and is very superior seed.

Per lb. postpaid, 45c. Write for prices in quantities.

**ALFALFA**—Our domestic Alfalfa is acclimated, and will thrive splendidly where growing conditions are normal, including irrigated land. Where dry farming is practiced special Dry Land Alfalfa is recommended.

Price: 1 lb. postpaid, 40c. Write for prices in quantities.

### HAIRY PERUVIAN

Price: 1 lb. postpaid, 45c. Write for prices in quantities.

INOCULATE YOUR ALFALFA, CLOVERS COW PEAS, SOY BEANS, VETCHES  
AND ALL OTHER LEGUME CROPS WITH

# Mulford Cultures

FOR LEGUMES

Small Cost

Large Returns

Easy to Use

No Labor Expense

**Mulford Cultures** are scientifically prepared and tested by experts, in the biological laboratories of H. K. Mulford Co., Philadelphia, U. S. A., with the same degree of care as Mulford Antitoxins, Serums, Vaccines, etc., which are standard all over the world.

Legumes offer the best-known means of maintaining soil fertility and rejuvenating over-cropped and worn out fields. They add both humus and nitrogen to your soil and thus increase your yield of wheat, corn and other non-legume crops.

The U. S. Department of Agriculture and many State Agricultural Experiment Stations recommend inoculation of legumes with nitro-fixing bacteria to induce a prompt "catch" and increase your yield.

**Mulford Cultures** are easily applied to the seed before planting and contain pure, tested strains of active, vigorous nitrogen-fixing bacteria, for inoculating seeds of legumes or soil. Enormous numbers of these very valuable and desirable bacteria are thus available to you in every package of Mulford Culture and may readily be applied to your seed. The sealed bottle insures purity.

**PRICES:**—Always specify on your order what crop you want to inoculate, as there is a different strain of bacteria for each legume.  
**ALFALFA, RED CLOVER, WHITE CLOVER, ALSIKE, VETCH, PEAS, BEANS, SWEETPEAS,  $\frac{1}{4}$  acre 75c, 1 acre \$1.50, 5 acres \$5.00**



## CLOVERS

**WHITE DUTCH CLOVER** (*Trifolium repens*)—Superior for pasture and unsurpassed for the production of honey. It also makes a beautiful lawn when mixed with Blue Grass. **Per lb. postpaid, choice seed 80c, fancy 85c.**

**RED CLOVER** (*Trifolium pratense*)—The standard Clover for all purposes. Hardy and succeeds well on any good soil. Makes superior hay—especially mixed with Timothy—either for dairy cows or for general use.

**Per lb. postpaid, 45c. Write for prices in quantities.**

**CRIMSON OR SCARLET CLOVER** (*Trifolium incarnatum*)—Highly recommended for pasture and fertilizing purposes. Is a thrifty annual, growing from 20 to 30 inches high. Germinates quickly, grows rapidly, and stools abundantly. Cut for hay when in full bloom. Planted in the Fall can be plowed under after blooming in the Spring and be followed with barley or potatoes. **Per lb. postpaid, 35c. Write for prices in quantities.**

**ALSIKE OR SWEDISH CLOVER** (*Trifolium hybridum*)—A perfectly hardy perennial. Excellent for hay and pasture. Valuable for bees. Resists both drought and excessive moisture. The hay is preferred to that of Red Clover, being finer, brighter and not so dusty. **Per lb. postpaid, 40c. Write for prices in quantities.**

## DIAMOND GRASS SEED MIXTURES



**DIAMOND QUALITY GRASS SEEDS** are the choicest new crop seeds, recleaned and tested for purity and germination, and only those stocks that grade above the established standards are offered to our customers.

Our **Special Mixtures** have been carefully worked out by the tests and observations of practical experts familiar with the requirements and conditions to be met, and will give the best results possible to obtain for the uses to which they are recommended.

### “DIAMOND” FANCY LAWN MIXTURE

**T**O have a good lawn the soil must be fine and rich, and well leveled. Then the best seed obtainable should be used. Plant any time from September until late Spring, depending upon the weather and soil conditions. Raking in the seed is advisable, and rolling greatly improves the turf. In watering your lawn soak it deeply and not too often, as light watering every day brings the roots close to the surface, where they quickly burn or dry out. You must not expect to make a fine lawn with cheap seed. The best lawn grass mixture costs more at first than the poorer substitute, but will be found much cheaper and more satisfactory in the end. Our “Diamond Quality” Fancy Mixed Grass Seed is prepared from the choicest recleaned Grass Seeds that have been carefully selected for their fineness and deep rooting, close growing habits and seasonable qualities, producing an ideal dense, velvety turf of lasting quality that remains green throughout the year. *Sow one pound to 300 square feet, 15 to 18 pounds to a 50-foot lot.*

Growing tests have proved our “Diamond Quality” Lawn Grass to be superior to any other mixture for our Western soils and climate; it is also free from chaff and foul seeds, weighing 23 pounds to the measured bushel. This is a guarantee of clean, plump seeds, as cheap chaff seed is very light.

**Single pound postpaid, 70c. Write for prices in quantities.**

**FINE MIXED LAWN GRASS**—For use where a temporary lawn must be quickly prepared, and if kept closely cut will be lasting and have a handsome appearance. A good, clean mixture. **1 lb. postpaid, 55c, 10 lbs. \$4.50**

**MAMMOTH RED CLOVER**—Grows very large and is used almost exclusively for plowing under for manure. **Per lb. postpaid, 45c. Write for prices in quantities.**

**SWEET OR BOKARA CLOVER**—*Melilotus alba* (White Blossom)—In recent years has attracted quite a little attention as a hay crop and soil improver and support as a pasture crop. It does not produce seed the first year, but usually an abundant crop of seed and hay the second year. It is hardier than Alfalfa and more drought-resistant and better for renovating the soil. Sweet Clover will thrive on most soils, either poor clay or sandy, but prefers a limestone soil. Where lime is deficient it should be added and good results will be obtained. Quite extensively grown on alkali soil. Sweet Clover is also recommended for bees. **Per lb. postpaid, 40c. Write for prices in quantities.**

*Melilotus indica* (Yellow Blossom)—is the best legume on which to build up your soil during the rainy season for the summer crop to follow, particularly potatoes. It is the most vigorous soil enricher of all the clovers and will grow on soils that will not support an ordinary farm crop, and is highly recommended for orchard soiling. **Per lb. postpaid, 30c, un-hulled 40c lb. Write for prices on larger lots.**

**ESPARSETTE OR SAINFOIN** (*Onobrychis gatativa*)—A deep rooting, perennial legume, extensively cultivated in dry, calcareous soils too barren for Clover or Alfalfa. Sow fifty pounds per acre. **Prices on request.**

**DIAMOND TENNIS COURT MIXTURE**—For those who prefer a grass court, our Tennis Court Mixture will give the best results possible, as it is made up of fine, close-growing, heavily rooted grasses that make a dense and lasting turf. **Single lb. postpaid, 70c. Write for prices in quantities.**

"DIAMOND  
QUALITY"

## GRASS SEED—Continued

Grass Seed Prices subject to change without notice. See note top of page 42.

## SPECIAL PASTURE MIXTURES

**No. 1. FOR GOOD LOAMY SOIL**—A mixture of Grasses and Clovers, prepared especially for good, loamy soils, that will give satisfaction as a permanent pasture, or for mowing for mixed hay. For pasture, sow twenty pounds per acre.

Price postpaid, 55c per lb. By freight or express 10 lbs. 43c per lb. Write for prices in quantities.

**No. 2. FOR IRRIGATED LANDS**—Use grass pastures and avoid bloat from green Alfalfa—Sow twenty-eight pounds per acre, preferably in early Spring. As soon as well established give water as needed. With proper attention a permanent pasture can be maintained.

Price per lb. 50c, postpaid. Not prepaid, 10 lbs. 38c per lb. Write for prices in quantities.

**No. 3. FOR LIGHT SANDY SOIL**—An extra fine mixture for sandy or light soils. This will make a good, strong turf, that under ordinary circumstances should last for many years. Sow twenty pounds per acre.

Price, postpaid, 55c per lb. By freight or express 10 lbs. 43c per lb. Write for prices in quantities.

**No. 4. FOR DRY LAND**—Mixed especially for the regions between the Cascades and Rocky Mountains, and on good, common wheat land. Try this mixture, as we believe that it will give you best possible results. Sow twenty pounds per acre.

Price, postpaid, 55c per lb. By freight or express 10 lbs. 43c per lb. Write for prices in quantities.

**STANDARD PASTURE MIXTURE**—For general use; gives splendid satisfaction in the logged-off and burned-over lands of Western Oregon and Washington; is composed of standard Pasture and Hay grasses that thrive in this section; a good clean mixture, conforming to the standards of the pure seed laws.

**MIXTURES FOR BURNED-OVER LAND**—In grading and cleaning grasses and clovers, we frequently find combinations that are difficult of separation and while the seeds are often of excellent germination and quality, they cannot profitably be separated and cleaned, so we blend them to produce pasture mixtures suitable for sowing on burns and logged-off land, which at the price are splendid values and very economical for such purposes.

**TIMOTHY**—(*Phleum pratense*)—This is the most valuable of all grasses for hay. Thrives best on moist, loamy soil. Sow early in the Spring or Fall. Sow fifteen to twenty pounds per acre.

Fancy, 1b. 25c, 10 lbs. \$1.75, postpaid.

**ITALIAN RYE**—(*Lolium italicum*)—A quick-growing grass, attaining a height of  $2\frac{1}{2}$  to 4 feet; very desirable for temporary meadows or pastures (will last from two to six years). Thrives best on soils that are slightly moist, and will even stand considerable overflow. Grows easily and bears an abundance of foliage that makes the best and sweetest hay imaginable. Sow forty pounds per acre.

Per lb. 25c, 10 lbs. \$1.75, postpaid.

**No. 8. FOR ARID OR ALKALI LAND**—Particularly for arid alkali lands. This mixture is composed of varieties that have proven to be the best for the soils mentioned. Sow twenty pounds per acre.

Price postpaid, 60c per lb. By freight or express, 10 lbs. 47c per lb. Write for prices in quantities.

**No. 10. HAY AND PASTURE MIXTURE FOR DRY HILL LAND**—Especially suited to the dry sections, such as parts of Southern Oregon, Eastern Oregon, Eastern Washington and Idaho. This mixture is made up of varieties that can endure a great change of temperature from heat to cold, and at the same time will make a splendid mixed hay.

Price postpaid, 55c per lb. By freight or express 10 lbs. 43c per lb. Write for prices in quantities.

**No. 11. FOR GRAZING PURPOSES**—This is a mixture of grasses only, being made up for the benefit of those who wish a mixture without Clover, and will make a fine permanent pasture, but is not intended for hay.

Price postpaid, 50c per lb. By freight or express 10 lbs. 37½c per lb. Write for prices in quantities.

**No. 12. FOR BURNED-OVER BOTTOM LAND, OR LAND INCLINED TO BE RATHER DAMP**—This is a mixture that will do well either for hay or for permanent pasture on land that is too wet for many of the grasses and clovers.

Price postpaid, 40c per lb. By freight or express 10 lbs. 29c per lb. Write for prices in quantities.

**ENGLISH RYE GRASS**—(*Lolium perenne*)—A strong-growing, hardy perennial grass, noted for its nutritive qualities. It is equally valuable for both grazing and hay. Forty pounds per acre. For Lawns this is used and recommended by many gardeners. If sown thickly, it makes a fine lawn, and for large grounds and parks it is very successful. Per lb. 25c, 10 lbs. \$1.75, postpaid.

**MESQUITE**—(*Holcus lanatus*)—It is usually sown on virgin soil without cultivation, after the ground has been burned over. Sow about thirty-five pounds to the acre chaff seed; hulled fifteen pounds per acre.

**FANCY HULLED SEED** per lb. 35c, postpaid.

**A Clipper Grain Cleaner will improve your seed**



## GRASS SEED—Continued

☞ Grass Seed prices subject to change without notice. See page 42  
Write for quantity prices.

**KENTUCKY BLUE GRASS**—(*Poa pratensis*)—One of the best grasses for permanent pasture furnishing a constant supply of the most nutritious feed during the greater part of the year. Sow twenty-eight pounds per acre. **For Lawns**—Blue Grass is used very extensively for lawns and is found in all lawn grass mixtures. Sow one pound to 300 square feet if used alone. **1 lb. 75c, postpaid.**

**ORCHARD GRASS**—(*Dactylis glomerata*)—One of the most valuable of all the cultivated grasses, blooming with Red Clover, and making with it admirable hay. As a pasture grass it is more productive than any other, and does best under close feeding. Sow twenty-eight pounds per acre.

**Fancy Eastern, per lb. 40c, 10 lbs. \$3.50, postpaid.**

**RED TOP**—(*Agrostis vulgaris*)—A good perennial grass. Generally sown for permanent pastures. Does best on moist or even marshy land. If the ground is not overflow land it is advisable to mix it with Meadow Fescue, Orchard Grass or Alsike Clover. Sow twenty-eight pounds per acre chaff seed; fourteen pounds hulled.

**Choice Unhulled, 10 lbs. \$2.50, postpaid.**

**Diamond Fancy Hulled**—A very superior grade of Red Top that is free from chaff and light seed. **10 lbs. \$3.50, postpaid.**

**CANADIAN BLUE GRASS**—(*Poa compressa*)—Recommended in all pasture mixtures on dry soil; thrives well on clay or hard trodden and poor soil. Sow twenty-eight pounds per acre

**Per lb. 40c, postpaid**

**CHEAT SEED**—(*Bromus secalinus*)—Cheat yields a good crop of hay, especially on low or moist soil and will stand considerable overflow without harm. It makes an excellent hay for cows or horses, but should be cut before it gets too ripe. Sow in the Fall or early Spring same as oats, and about 100 pounds per acre.

**10 lbs. 75c, postpaid**

**BROMUS INERMIS—Russian Forage Grass—Awnless Brome Grass**—This *Bromus*, on account of its strong perennial character, and its unusual drought-resisting powers, is the best grass we have for the semi-arid regions of the Northwest. Grows luxuriantly, is freely eaten dry or green by cattle and yields from two to six tons to the acre. Sow twenty-five to thirty pounds per acre. Spring or Fall.

**Per lb. postpaid, 45c; 10 lbs. \$3.50**

**RED OR CREEPING FESCUE**—(*Festuca rubra*)—Forms a close turf and is valuable for lawn and golf mixtures; thrives in sandy soils and along the Coast. (Fourteen pounds to the bushel). **Price per lb. 70c, 10 lbs. \$6.00, postpaid.**

## CAHOON SEEDER

THE STANDARD BROADCAST SEED  
SOWER

SAVES SEED—SAVES TIME

**TALL MEADOW OAT GRASS**—(*Avena elatior*)—Often attains a height of 3 to 4 feet by the middle of June. Makes splendid hay and thrives on sandy loam, but makes its best growth where there is some clay. Can be fed as a pasture grass, and will generally bear cutting three times. For mixing with Perennial Rye and Alfalfa for sandy soils it is excellent. Sow about thirty to forty pounds per acre alone or half that amount if mixed with the above varieties. **Per lb. postpaid 75c.**

**MEADOW FESCUE**—(*Festuca pratensis*)—Perennial; grows 3 to 4 feet high. Roots deep, thus resisting drought. It succeeds on any ordinary soil; yields a heavy crop of superior hay; one of the best grasses for pastures, being valuable to mix with other kinds. Sown alone, use forty pounds per acre.

**Per lb. 60c, postpaid**

**HARD FESCUE**—(*Festuca duriuscula*)—Fine, rather dwarf, justly noted for its drought resisting qualities. Valuable as a pasture for sheep. Sow twenty pounds per acre.

**Per lb. 75c, postpaid**

**SWEET VERNAL**—(*Anthoxanthum odoratum*)—Valuable to put in pasture mixtures and lawn grass on account of its earliness and its delightful fragrance when in bloom. Thrives under all growing conditions but is only recommended for use in mixtures. If alone use twenty-eight pounds per acre.

**Annual, per lb. 45c, postpaid**

**TALL FESCUE**—(*Festuca elatior*)—Succeeds best in moist alluvial and strong clayey soils: is very productive and lasting; valuable for permanent pasture, is relished by stock and on rich land makes fine hay—height 3 to 4 feet; weight twenty-two pounds per bushel.

**Per lb. 85c, postpaid**

**ROUGH-STALKED MEADOW GRASS**—(*Poa trivialis*)—A most valuable grass which flourishes in moist, rich soils. Roots are perennial, but soft; foliage freezes down.

**Per lb. 85c, postpaid**

**Write for prices on larger lots**

**CRESTED DOG'S TAIL**—(*Cynosurus cristatus*)—A perennial grass with short, narrow leaves; valuable for lawns or pastures on dry, light land; makes excellent sheep pasture. Use 20 lbs. per acre if sown alone.

**Per lb. 75c postpaid, 10 lbs. \$7.00**

**SHEEP'S FESCUE**—(*Festuca ovina*)—Grows freely in high, dry and open pastures. Its chief merit is for sheep pasture. Thirty-five pounds to the acre.

**Per lb. 70c postpaid, 10 lbs. \$6.50 postpaid**

**BERMUDA GRASS**—(*Cynodon dactylon*)—Suitable only for climates where the Winters are not below the freezing point. It stands the hottest and driest season. Sow 6 lbs. per acre

**Per lb. 85c postpaid, 10 lbs. \$7.50**



## MILLETS

*Sow in April, May or June, 12 to 15 pounds for seed, or 20 to 30 pounds for hay per acre.*

**GERMAN OR GOLDEN**—An improved variety, yielding a larger crop of seed than the Common Millet. It is also taller than the Common and yields a heavier crop of hay.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

**NEW SIBERIAN**—New and wonderfully productive. Extremely hardy, and about two weeks earlier than the German Millet, growing four feet in height.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

**COMMON**—A well-known variety growing from three to four feet high: has broad blades and strong stalks.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

**BROOM CORN MILLET**—Is somewhat variable in character and is divided into several varieties, one of which is sometimes called Hog Millet, as the seed is often used to feed hogs. All of this class are better adapted to produce seed than for pasture.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

**WHITE WONDER MILLET**—Grows four feet tall, bearing large heads covered profusely with bristles which repels attacks by birds. It does not stool freely but branches to some extent. The stems are strong enough to support the heavy heads. We recommend sowing this variety to be grown for grain for small chicks.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**

**PEARL MILLET**—Grows 8 to 10 feet tall, having heads 8 to 10 inches long prolific of seed that is hard and not eaten greedily by any kind of stock. When young the enormous growth of foliage is succulent but becomes coarse and objectionable and should be silaged before feeding.

We recommend this variety for green feed to cut when 2 or 3 feet tall. It is eaten greedily by all stock.

**Postpaid, 10 lbs. \$1.25. Write for prices in quantities.**



*Millet*

## RAPE

**DWARF ESSEX**—One of the best forage plants, producing immense quantities of green feed when grass and other crops are dried up. Highly recommended by Professor Shaw and other eminent authorities. Has yielded ten tons of green forage per acre with a food value double that of green clover. Excellent pasture for all stock, and fine green feed for chickens. Thrives on all soils and is ready for use in six to eight weeks from time of sowing. Also valuable for plowing under. Sow same as turnips from May until September, or sow with grain. Use four pounds per acre in drills, eight pounds broadcast. **Lb. 25c, postpaid. 10 lbs. \$1.75. Write for prices in quantities.**

## Sunflower

**SUNFLOWER, MAMMOTH RUSSIAN**—The largest and most productive variety. It is now being grown extensively for silage for cattle and is proving of immense value. The seed is a valuable poultry food and is a great egg producer. It is usually drilled in 36-inch rows with the hills 4 inches apart in the row. In sections where the season is short it should be planted as soon as the soil is in good condition in the Spring. For silage it should be cut when 25 to 30 per cent of the plants are in bloom. In food value it is equal to corn silage and the yield 3 to 4 times as great. It has been demonstrated in many parts of the country that no other known forage plant will produce as great a tonnage of high grade food for livestock.

**Lb. 25c, 10 lbs. \$1.75, postpaid. Write for prices in quantities.**

## Lentils—French

The French Lentil excels as a food, is large, smooth, of a light even color and very attractive. It is also the heaviest yielding and most profitable variety to grow.

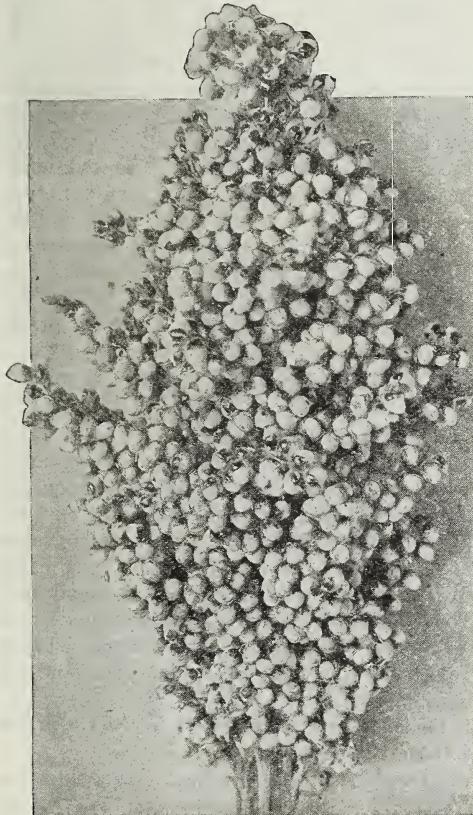
Lentils can be grown wherever peas or beans can be grown and are in big demand for export.

**Lb. postpaid, 30c, 10 lbs. \$2.25**

## THE NON-SACCHARINE SORGHUMS

Wonderfully productive and of great value as a forage, ensilage or grain crop in dry sections

THE varieties here offered represent the best selections and are highly recommended. They are best drilled in—using 3 to 8 lbs. per acre, depending on variety and condition. Plant in the late Spring after the ground is warm. Cultivate often, throwing earth toward the plants.



*Head of Feterita*

### Sharples Cream Separator

*Use a Sharples Cream Separator—It will pay for itself in a few months and leave you a handsome profit. Write for information.*

### Field Peas

Field Peas are a very profitable crop and are grown here very extensively. They can be grown alone or with oats. When planted with grain and cut green they make a large amount of very rich feed; also very valuable for enriching the soil if plowed under. The dry peas make excellent hog-feed and are quite fattening. Sow, if alone, 120 pounds to the acre; if with other grain, 60 pounds.

**WHITE CANADIAN**—A leading kind; seed almost white, heavy cropper.

**Per lb., postpaid, 20c. Write for prices in quantities.**

**BLUE PRUSSIAN**—Very much like the above, except in color. This variety is largely sold dried for soup peas.

**Per lb., postpaid, 20c. Write for prices in quantities.**

**MILO MAIZE**—This is one of the sorghums similar to Kaffir Corn. Grows erect, with thick, close-jointed stalk. Height 4 to 7 feet. Heads are very large, giving a heavy grain yield; is drought resistant, and succeeds on alkali soil. Plant late when ground is warm, three to six pounds per acre.

**Per lb., postpaid, 20c. Write for prices in quantities.**

**FETERITA**—This is the most recent of the non-saccharine sorghums to command the attention of "dry farmers" on account of its wonderful yield and drought resistant qualities, being twenty to forty days earlier than Kaffir corn, and has given immense crops in the driest seasons without having received a drop of rain. Makes splendid fodder as well as giving a good grain yield. **Try Feterita. Per lb., postpaid, 25c. Write for prices in quantities.**

**SUDAN GRASS**—**The great drouth resisting forage crop**—Sudan Grass was introduced from Egypt in 1909 by the U. S. Dept. of Agriculture, and has given great promise of becoming a valuable addition to our forage grasses, especially in some sections. It is believed to be the original type of our cultivated sorghums. All stock relish it, and no harmful effects have followed where it has been fed. Under favorable conditions, it grows from 7 to 9 feet, having luxuriant foliage and small stems. While thriving under dry conditions, excessive moisture will not harm it but is easily damaged by frost. Where growing conditions are favorable the stubble makes excellent green pasture. In the South three or four cuttings are not uncommon. **Price: 1 lb. 30c, postpaid; 10 lbs. \$1.75. Write for prices in quantities.**

**BROOM CORN**—**Dwarf Evergreen**—Grows from 4 to 5 feet high and makes straw of finest quality, being almost, if not entirely, free from crooked brush. **Per lb., postpaid, 25c. Write for prices in quantities.**

**GARVANCER PEA**—**(Coffee Berry)**—A valuable leguminous forage plant for dry land. Yields excellent crops of feed for stock. The dried peas when browned and ground are used as a coffee substitute.

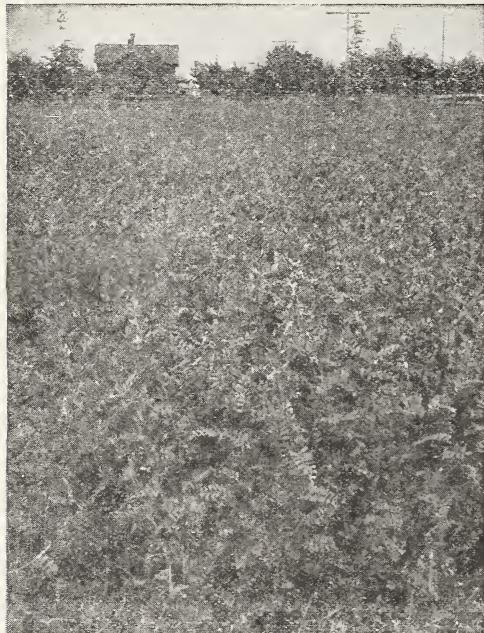
**Per lb., postpaid, 30c. Write for prices in quantities.**

**SWISS (or China)**—A three-corned pea; excellent for cooking purposes. Vines small. **Per lb., postpaid, 30c.**

# FARM AND FIELD SEEDS—Continued

 Prices Subject to Change Without Notice. See Page 42  
Ten Pound Prices Postpaid. Write for prices in quantities

## Vetches or Tares



Vetches—Oregon's Greatest Forage Plant

**PURPLE VETCH**—(*Vicia atropurpurea*)—may be considered as a new vetch, it having been grown only to a limited extent, mainly in Oregon and California. It is a distinctly new variety and takes its name largely from the color of the blossom, which is a deep purple. It is being used by a great many orchardists for plowing under. It can be grown as cheaply as Common Vetch and should be planted in the fall on well drained fertile soil, sixty pounds to the acre. It may be used as a hay or silage crop. The plant has been found to be free from attacks of the aphis.

**10 lbs., postpaid, \$2.00. Write for prices in quantities.**

 Large buyers write for quotations as the market is constantly changing.

**COMMON VETCH**—(*Vicia sativa*)—One of the best forage plants that can be grown on the Pacific Coast. Often called Fall Vetches. It furnishes an abundance of excellent feed, either green or cut and cured for hay. The seed should be mixed with an equal weight of some variety of wheat, oats or rye having a stiff straw, and the mixture sown at the rate of two bushels per acre. Vetches weigh seventy pounds per bushel. Sow in the Fall or early Spring.

**10 lbs., postpaid, \$1.00. Write for prices in quantities.**

**WHITE SPRING OR PEARL VETCH**—White Pearl Vetch is coming into great favor and is being extensively used for Spring planting as splendid results can be had from sowings made as late as April. The yield being fully equal in every way to that obtainable from common vetch (*vicia sativa*) and of fully as great feeding value.

The advantage of later Spring planting makes White Pearl Vetch specially desirable and more sure to give returns than common Vetch under many planting conditions, and it has given better results on the light sandy cut-over lands of Washington and Idaho.

**10 lbs., postpaid, \$2.00. Write for prices in quantities.**

**SAND, or Winter Vetches**—(*Vicia villosa*)—This variety thrives on poor, arid, sandy soils. It is sown either in the Fall or early Spring, and is generally mixed with rye, which serves to support the plants. It grows to a height of 3 or 4 feet, and can be cut twice; first, as soon as the bloom appears, and afterward for seed. The plant is perfectly hardy and makes a very nutritious food. **10 lbs. postpaid, \$2.00. Write for prices in quantities.**

**WOOLLY-PODDED VETCH**—(*Vicia dasycarpa*)—Closely related to hairy vetch, equally hardy, two to three weeks earlier. It differs from Hairy Vetch, having nearly smooth leaves, purple flowers and hairy pods. It has succeeded splendidly wherever tested, and on account of its earliness has advantages over hairy vetch. Excellent crops are produced in Western Oregon. Recommended in this section for fall planting. It is worthy of a trial. **10 lbs. postpaid \$1.75 Write for prices.**

**SPECIAL MIXTURES for BURNS, DRY or WET LANDS—Temporary or Permanent Plantings for Hay or Pasture—WRITE US.**



THE production of fine seed oats has always been one of our leading specialties and we consider them to be the most profitable and satisfactory grain crop, being indispensable to stock and dairymen, and their use as a food is constantly increasing.

Planted in season, oats rarely fail, are easily and cheaply grown, and the valuable new varieties which we offer will double the number of bushels per acre that you would get from common seed oats, which means half the cost of production, or twice the profit.

They will mature in July from Spring sowing, giving quick returns and leaving the soil in good condition for Fall planting.

We offer select, recleaned, well-matured seed oats of standard varieties, suitable for this section and our own introductions, "ECLIPSE" and "CLIMAX," the earliest and most vigorous, heaviest yielding oats ever grown anywhere.

### DIAMOND HULLESS OATS

Many Varieties of Hulless Oats have been tried by the Department of Agriculture, but very few yield well enough to pay the grower.

**HULLESS OATS** grow like ordinary oats with a branching head but thresh out clean, the grain being larger than the kernel of common oats and ready for rolling or milling just as they come from the cleaner, retaining all of their richness and flavor. You can make your own oatmeal on any gristmill and it will also cook quicker than other oatmeals and you will find it of superior excellence.

**DIAMOND HULLESS OATS** stool freely, stand up well and will thrive wherever oats can be grown. They are drought resistant and ripen in about 100 days from seeding and have given 50 bushels per acre, weighing about 54 pounds to the measured bushel. Sow at the rate of 40 to 50 pounds to the acre.

**10 lbs. postpaid, \$1.50. Write for prices in quantities.**

**"SENATOR"**—(A New Garton Side Oat)—Senator is highly recommended by the originators for its extreme earliness and great fertility—and is especially adapted to heavy land. Seeded on good land this oat will do well, and where oats are liable to lodge SENATOR will stand up—has stiff straw—large grains and fine color.

For exhibitions the large grains and big heads of SENATOR make a fine showing. By freight or express. Write for prices.

#### WHICH IS YOUR CHOICE?

The difference in the cost of planting and harvesting an acre of common oats yielding 20 to 50 bushels, and of growing our record-breaking varieties that give from 80 to 135 bushels per acre is only the difference in cost of the seed (from 50c to \$1.00 per acre); in other words, *it costs about as much to plant, care for and harvest oats that yield only half a crop as it does to reap a real harvest.*  **THINK THIS OVER**



"CLIMAX" always a winner

OATS ARE A PROFITABLE CROP, easily grown and seldom fail. Prices are high and indications are that they will remain high for some time. Their value as a food makes them in big demand and our select seed will yield you a profitable crop.



## ECLIPSE—White Side Oat

**"ECLIPSE"**—**Side Oat**—is a reselection from our famous "Shadeland Challenge," and is living up to its name by "eclipsing" all competitors, including the parent stock, being equally as vigorous and early and the massive heads are uniformly larger and filled with plump, heavy thin-hulled oats of finest milling quality.

The yield on light dry soil where our seed crops are grown runs from 75 to 85 bushels per acre and moist bottom land 125 bushels per acre is not uncommon.

**"ECLIPSE"** can be planted Fall or Spring, west of the mountains (Fall plantings should be made on well-drained soil), but in severe climates early Spring planting is best. Matures in 90 to 100 days, and can always be harvested before the Fall rains. Their beautiful bright color and plumpness command the top price in the market. Try this grand new side oat.

**10 lbs. postpaid, \$1.00.** Write for prices in quantities.

 **DON'T FORGET** "Eclipse," "Climax" and "Senator" Oats have won firsts every year for over 15 years at the Oregon State Fair and at every North Pacific Land Show—an unbroken record.

They will win for you and add to your profits.



Sheaf of Prize Winning  
"Eclipse" Oats

**To Know** that you are getting the genuine "CLIMAX" "ECLIPSE" Oats, always buy direct from our store. The vitality and true type are maintained by intelligent, scientific care and selection. Prices are so low that you cannot afford to risk any other seed oat.

## STANDARD SEED OATS

Choice Recleanned Stock of the following varieties can always be supplied

**WHITE SEED OATS**—We always try to have a selected recleanned stock of No. 1 White Seed Oats which we can supply at market prices. Write for samples and prices on the quantity you require, or send in your order. You will always get full value for money sent.

Write for prices

**GRAY WINTER**—This Oat is planted extensively throughout the Northwest as a Fall or Winter Oat. Is well and favorably known, being a good yielder, and the Oats are large and plump.

Write for prices.

**SWEDISH RED**—A comparatively new tree Oat from Sweden having a soft hull and fine soft straw which is ideal for hay. This is the Oat grown so extensively in Northern California and along the Southern Oregon Coast. Sow in Fall or Winter. Red Oats always bring a good price in the market.

Write for prices.



# Seed Wheat

*A Seed Field of Early Baart that Passed Inspection for Certification Under the Supervision of the Oregon Agricultural College*

**P**RIOR to the adoption of the U. S. Grain Standards the Pacific Northwest did not use the grades established by the big eastern wheat centers, but since the U. S. Standards have become effective it is impossible to market mixed varieties of wheat or other grains at the best prices, and growers will find it necessary and profitable to plant only clean, pure seeds of standard commercial varieties.

We have provided splendid stocks of the best sorts for this section and when ready to buy any variety of Seed Wheat, write us for quotations on quantity wanted or send in your order and we will give full value at lowest seed prices. The following are standard market varieties that are known as the most profitable and best yielding.

**Price, 10 lbs. postpaid, \$1.00. Write for quantity prices.**

#### **EARLY BAART—Bearded—Spring**

This splendid new Spring wheat is fully as early as Marquis, a better yielder and has a large white grain of finest milling quality. In the big wheat sections of Eastern Washington, Early Baart has matured three weeks ahead of Blue Stem, giving a bigger crop and its earliness insures protection against loss from the extreme heat and drouth occurring later. We offer a fine stock of certified seed from the field illustrated above.

#### **BLUE STEM—Spring**

The best known and one of the most profitable Spring varieties for the Northwest. Heads are large and well-filled, stools freely. Grain very hard. Although a Spring variety, can be planted as a Fall Wheat in sections where Winters are mild. The Blue Stem of the Pacific Coast has a white grain and smooth chaff, quite unlike the Velvet Chaff and Red grains of the states East of the Rockies. Better results are had with this Wheat East of the Cascade Mountains, as it has a tendency to lodge in the moist sections on the Coast.

#### **WHITE WINTER WHEAT**

Soft, white Winter Wheat. Beardless with white chaff. Kernels short and plump. A good milling wheat suited to well drained lands West of the Cascade Mountains. Often confused with Rink Wheat, but grain and head are both larger and has yielded more under same conditions.

#### **RINK—Winter**

Similar to White Winter and often mistaken for it, but having a little shorter kernel and head. Yields well and has proven profitable on the well-drained rolling lands of the Willamette Valley.



#### **MARQUIS—Spring**

Marquis Wheat was produced by a cross of Red Fife and Hard Calcutta. It differs from the parent stock, Red Fife, inasmuch as it has a heavier head, shorter straw, and the grain is a little darker, more flinty and very heavy, weighing about 65 pounds to the measured bushel. Heads are beardless, chaff smooth.

Marquis was awarded the prize at the New York Agricultural Show, as the best wheat grown on the continents of North or South America. It is early, heavy yielding and of splendid milling and baking quality.

#### **LITTLE CLUB—Spring**

This well-known variety has stiff straw, typical club head and does not shatter easily. Is a good grower and yields well. Our stock is exceptionally good, being selected from a heavy yielding strain.

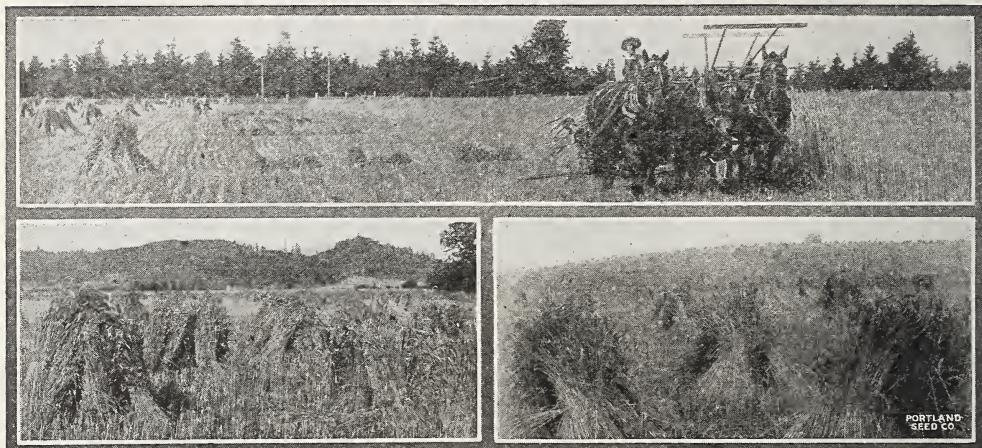
#### **FOISE—Winter**

Medium hard kernels. Beardless, chaff red. Heads slightly club shaped at tip. Specially adapted to the richer soils and prairie lands of the valleys, and foothills West of the Cascades and under favorable conditions yields heavily. Mills well.

#### **TURKEY RED—Winter**

A medium hard red bearded variety; a heavy yielder and does not shatter out easily. Is very hardy, doing well in cold climates, but in moist sections has a tendency to lodge badly. The grain is hard and of good quality. A good Wheat for the dry sections East of the Cascades.

## SEED WHEAT—Continued



Seed Fields of Blue Stem, Foise and Marquis

## PROHI WHEAT—Winter

Soft, white winter. Beardless, white chaff, medium long kernel. Has a characteristic angular shape to the kernel. Is a good yielder, suited to the well drained soils west of the Cascades.

## FORTY FOLD—Winter

Forty Fold is referred to as "Gold Coin" in some sections. Is quite early, seed resembling Blue Stem. A favorite Winter variety in many localities, and in good demand for milling.

For Prices see Page 55

## RED CHAFF—Winter

Beardless with red chaff and white kernels. Popular variety for western Oregon and Washington. This variety is often confused with Foise.

## RED RUSSIAN—Winter

This is extensively grown in the Palouse country of Eastern Washington, where conditions are favorable. It grows vigorously, maturing late, and gives a heavy yield of both grain and foliage. It is a superior variety for choking out weeds, growing close and luxuriantly.

**TREAT YOUR SEED WHEAT**—The Formaldehyde treatment is recognized as the safest, most efficient method for prevention of smut and fungus in wheat. Use one pint to 40 gallons of water, preferably in an open vat where the grain can be immersed for 10 to 20 minutes. Be sure to skim off any floating smut balls, defective grains, etc. **Pt. 75c, qt. \$1.30, gal. \$3.50. Cannot mail**

## SEED RYE

**Spring Rye** is a very important and profitable crop useful for replacing winter grain that has failed, or planted as a soiling or grain crop is always dependable. Should be sown at the same time as other Spring grains using 90 to 120 lbs. per acre.

**BEARLESS SPRING RYE**—This splendid variety is extremely hardy, yields heavily and is preferred for stock feeding, as the small fine beards (about an inch long) mostly drop off in handling. **Plant Fall or Spring.**

**10 lbs. postpaid, 90c**

**ROSEN RYE**—A fall or winter rye brought from Russia in 1909. Each head fills four complete rows of grain. The grains are much larger than of common rye and the yield double and some make it stronger and say three for one. You cannot make a mistake in trying it.

**10 lbs., postpaid, \$1.00 Write for prices in quantities.**

## SPELT or Emmer

**EMMER**—(*Triticum Dicoccum*)—Often Mistakenly Listed as Speltz—Similar to barley in growth, but produces two grains in a spikelet. A comparatively new and profitable crop yielding 50 to 100 bushels of grain, or four to six tons good hay per acre. Thrives well on poor soil, and dry weather seems not to affect it. After threshing, the straw makes good feed. Sow in Spring at rate of 75 to 100 pounds per acre. We offer choice, recleaned seed of the true variety.

**10 lbs. 75c, postpaid**



## "DIAMOND QUALITY" FLOWER SEEDS



**F**LOWERING plants are enjoyed by everyone, and cut flowers for home use or flowering plants for garden display can easily be grown; their care is a pleasant and healthful diversion and for the small expense of time and money nothing will return so much pleasure and profit. If you have any planting problems, if you wish to produce special effects or work out color schemes, write us; we will be glad to assist you in every way possible, and our experience is at your service.

**CULTURE**—*Cultural directions are printed on the back of nearly all packets. Flowers usually succeed best in a sandy loam, made rich with well-rotted manure, which should be made fine and thoroughly mixed with the soil. A soil thus prepared will remain moist and loose, so that flower seeds, which are generally small and delicate, will germinate and grow with vigor.*

*After the plants are up they require plenty of air and moisture, but they must not be too wet or they will "damp off." When large enough to transplant, put them in boxes or pots, giving them plenty of room, then when the ground is warm enough to put them outside, each plant will have a nice clump of roots. But if they are left inside and are close together, they will be weak and will not thrive.*

*A common mistake with flower, as well as other seeds, is planting too deep. A good rule is to plant the same depth as the thickness of the seed, and always press the soil down firmly, as this helps the seed to secure a firm hold and also retains the moisture.*

*A hotbed or cold frame is very convenient to start seeds in, as the temperature and moisture can be so regulated as to make their germination and rapid growth more certain. Most seeds do well if sown in boxes in a sunny window in the house.*

*Plants are usually ready to be transplanted when they have made a growth of two inches.*

### INFORMATION THAT WILL AID IN SELECTION OF FLOWERS

**Annuals** bloom and ripen the first year and then they perish. Many annuals in warm climates, or when taken in, or protected during Winter, become perennial, with short lives.

**Hardy Annuals, Biennials and Perennials** can be sown in open ground early in the Spring if desired, and Hardy Biennials and Perennials do not require any protection in Winter.

Perennials flower several years in succession.

**Biennials** do not generally flower the first year, and are in their perfection the second year.

**Half-Hardy Annuals, Biennials and Perennials** should not be sown in open ground until settled warm weather, though they can be sown in the house, if desired, early, and afterwards transplanted. The two latter need to be protected in Winter, or carried over until Spring in cold frames or greenhouses.

*Flower Seeds that are easy to grow under the proper conditions of heat and moisture will often fail when these conditions cannot be controlled.*

**The following seeds require special attention and equipment for best results:**

**Asparagus Plumosus**

**Calceolaria**

**Cyclamen**

**Asparagus Sprengerii**

**Canna**

**Heliotrope**

**Begonia**

**Cineraria**

**Gentiana**

**Smilax** and **Primroses** except **Evening Primrose, Oenothera**

**For the convenience of our customers we have grouped annuals together—separating them from the biennials and perennials, and have arranged a classified list giving color and habit of flowers listed, to aid in selections for special effects.**



## "DIAMOND QUALITY" SWEET PEAS

Sweet Peas Head the list as our most beautiful and popular annual

OUR Famous "Diamond Quality" Sweet Peas are selected with critical care and we offer the best productions of the foremost growers. Although we list only those we consider best, we can supply any variety in commerce, and special orders will receive careful attention.

**CULTURE**—First and most important, plant as early in the Spring as the conditions will permit. Seeds should be sown at the rate of one ounce to 15 feet. Make a trench about 3 to 4 inches deep, planting the seeds in the bottom about 2 inches deep, pressing the soil down firmly. After the plants are well up, thin to 4 or 5 inches apart, and draw the soil around them until the trench is filled above the level. This gives a depth to the roots, preserving the moisture. Keep the ground well worked and water if needed, an occasional thorough soaking being better than a daily sprinkling. Keep the flowers cut close and a pruning of the tips of the vines will also aid in prolonging the season of bloom and insuring better flowers.

### EARLY FLOWERING SPENCER SWEET PEAS

Six weeks earlier than the Spencers, these new early-flowering varieties begin to bloom 106 days from planting in the open ground and flower through a long season—about four months.

New Early-Flowering Spencers are fixed as to type and color and should not be confused with the Christmas or Winter-Flowering varieties generally listed. **Pkt. 15c, 9 for \$1.25, oz. 75c**

**LIBERTY**—New brilliant red—in the words of the introducer—"Nothing yet offered has approached this deep sun proof crimson or blood red—a most welcome addition to this class—be sure to try a packet of Liberty."

**SONG BIRD**—A splendid light pink Spencer.

**HEATHER BELL**—Very large graceful flower of finest Spencers form, borne 3 and 4 on long, strong stems. Color is a lovely, rich mauve—changing when cut to a beautiful mauve lavender. Valuable as a cut flower and profitable variety for florists.

**SNOW FLAKE**—The best of the "Early White Seeded Spencers"—a beautiful white for commercial growers. The flowers are very large, beautifully waved and borne in greatest profusion on long stems.

**NOVELTY GLITTERS**—Bright fiery orange, under favorable condition produces four flowers on long stems. **Packets only 25c**



*Mulford Cultures for Sweet Peas*

*Makes larger Flowers and prolongs the blooming period*

**MELODY**—A lovely rose pink on white having the dainty coloring and general appearance of "Countess Spencer," very floriferous, the blooms being mostly fours on fine stems.

**SPRING MAID**—Color a light pink on a cream ground; a flower of great beauty and refinement; the large blossoms, 4 on a stem, make this a most attractive and desirable variety.

**IMPROVED SNOWSTORM**—A vigorous grower, the immense flowers are invariably borne in fours on very long stems. This is the last word in White Sweet Peas and easily eclipses all early-flowering white Sweet Peas to date.

**YARRAWA**—The flowers average two and one-half inches in diameter; many are duplex or double. The color is a bright rose-pink with a clear, creamy base.

**FORDHOOK ROSE, IMPROVED**—A charming shade of rosy carmine. The flowers are of largest size and usually borne in threes and fours on long stiff stems.

# SWEET PEAS

## Standard Spencer Varieties

*A splendid collection, including the best of the recent novelties.*

### *The New "Spencer"*

type has lovely waved fluted flowers of gigantic size, and in exquisite colorings, length of stem, and lasting qualities are much superior to the older types. For culture see page 58.



### *For Classified List of FLOWERS*

*Giving COLOR, HABIT and Blooming Period of the Flowers we list. See Page 74*

### ORANGE AND SALMON

**Barbara**—A beautiful shade of orange salmon, the brilliancy and delicacy of the coloring being enhanced by planting in partial shade. A true Spencer of lovely form, very valuable as a cut flower.

Pkt. 10c, oz. 60c

**Illuminator**—A brilliant orange-salmon ground illuminated with bright cerise pink; a rare and wonderful color combination of great beauty. First class certificate.

Pkt. 10c, oz. 50c

**Thomas Stevenson**—The most brilliant orange scarlet, standard of deeper color than the wings. The flowers are of the finest Spencer form.

Pkt. 10c, oz. 60c

**Robert Sydenham**—A glowing orange salmon; a strong grower, producing four flowers to a stem. It is undoubtedly the best and largest of this shade of color.

Pkt. 10c, oz. 65c

### RED AND MAROON

**Black Knight**—Rich dark wine red with velvety black sheen.

Pkt. 10c, oz. 50c

**Fiery Cross**—The standard is a scorching fire-red or rich orange-scarlet, which scintillates and glitters in the bright sunlight with a glowing, fire-like sheen that radiates over the entire flower, including the rich, cherry-orange wings.

Pkt. 10c, oz. 65c

**King Edward**—Bright crimson scarlet, largest size, wavy standard; drooping wings, long stems; one of the finest reds.

Pkt. 10c, oz. 50c

**Mulford Cultures** FOR  
SWEET PEAS  
FOR LECTURES



## SPENCER SWEET PEAS—Continued

### WHITE

**Constance Hinton**—Decidedly the best black-seeded, white-flowered variety. Flowers are of largest size, and come at times with a decided blush tinge. **Pkt. 10c, oz. 50c**

**Etta Dyke**—One of the finest white waved variety. **Pkt. 10c, oz. 50c**

**King White**—The newest and most magnificent white; of perfect Spencer type; the immense petals gracefully frilled—are a pure white of wonderful substance. **Pkt. 10c, oz. 50c**

**White Spencer**—A pure white flower of enormous size beautifully crinkled and fluted, of splendid substance. **Pkt. 10c, oz. 50c**

### VARIEGATED

**Dainty**—A pure, glistening white with distinct margining of bright rose-pink; comes four blossoms on long stems. Dainty is all its name implies and is the best picotee edge yet produced; very large and wavy. **Pkt. 10c, oz. 50c**

**Senator**—A combination of deep claret and chocolate, striped and flaked on a light heliotrope ground. The coloring, though dark, is brilliant and attractive. **Pkt. 10c, oz. 50c**

### CHRISTMAS FLOWERING

**Grandiflora Type**—Pink Lavender and White. **Pkt. 10c, oz. 25c**

### Collection of Early-Flowering

Eight 15-cent Packets for \$1.00  
Your Selection of Colors.

### Standard Spencer Sweet Peas

Six 10 cent Packets for 50 cents  
Your Selection of the Color.  
Twelve 10 cent Packets for \$1.00  
Your Selection

### PINK AND CREAM

**Countess Spencer**—*Pink*—The first Sweet Pea of the Spencer type. Flowers extremely large, beautifully expanded, crumpled and waved. Color silvery white, suffused and tinted with soft shell pink, deeper at the outer edges. **Pkt. 10c, oz. 50c**

### Remember-

Early plantings make finest flowers and more of them—they also have longer stems and bloom throughout a longer season

**"Margaret Atlee"**—The most perfect of the Duplex type yet produced. Color is a warm salmon pink suffused over a cream ground. The cream deepens into a bright buff at base of standard and wings. Flowers are of very large size and are borne almost uniformly four on a stem. **Pkt. 10c, oz 50c.**

**Mrs. Routzahn**—Color, soft straw tinted with blush pink, shading to rose and apricot at edges, with distinct rose margin; of immense size; one of finest Spencers. **Pkt. 10c, oz 50c**

**Primrose Spencer**—Color, a true primrose. Very vigorous, free flowering, excels in beauty of form, length of stem and keeping qualities. **Pkt. 10c, oz 50c**

**Mrs. Hugh Dickson**—One of the most attractive and pleasing varieties. The flowers are very large and are elegantly carried, usually four together on a long, strong stem. The coloring is apricot on a cream ground, shading off rather lighter toward the center of the flower. **Pkt. 10c, oz. 60c**

**Dobbies Cream**—A good primrose, a strong grower and generally flowers on a stem. **Pkt. 10c, oz. 65c**

**Hercules**—Waved. A rosy pink, slightly deeper color on the edges. Recommended. Usually four flowers on a stem. **Pkt. 10c, oz. 65c**

### SWEET PEAS IN MIXTURE

#### SUPERB SPENCERS

**Superb Mixture—True Spencers Only**—A splendid mixture, carefully proportioned and blended to produce pleasing and harmonious combinations of color. **These are not seedlings, but carefully selected named varieties that retain all their purity and brilliance of color.**

**Pkt. 10c, oz. 30c, 1/4 lb. \$1.00, lb. \$3.00**

### DIAMOND

**Diamond Mixture**—The most perfect blend of the finest named varieties it is possible to produce. This mixture contains many famous novelties the best of Grandifloras, also standard Spencer types, and will delight the most critical. **Sold in 1-oz. sealed pkts. only at 15c each**

### GRANDIFLORA

These old-time favorites. Our mixture is made up of select named varieties.

**Pkt. 10c, oz. 20c, 1/4 lb. 50c**



## ANNUAL FLOWER SEEDS

### And Those Generally Used as Such

**C**HARMING effects for every planting purpose can be had at very little expense by the proper planting of Annual Flowers, Vines and Foliage Plant. For classified list showing what is best for various purposes, see page 74.

Annuals bloom the first year, and many of our most popular flowers come in this class—under favorable conditions a few varieties will continue to live longer than one season, but as a rule they perish, and in planting for permanent effects the perennial plants are generally selected, the annuals being used for the first one or two seasons until the perennials become established.

### ASTERS—Oregon Grown Seed

Asters grow to perfection in our mild, cool climate and splendid strains of the best-known sorts have been developed by careful selection. As Fall bloomers for garden or cut flowers, asters are most satisfactory, and the varieties we offer being acclimated can be depended on for best results, rivaling the chrysanthemum in size and beauty. Asters require a rich, moist soil. Seed should be sown inside in March, and plants transplanted to the open ground when the weather is settled.

#### “CREGO GIANT” ASTER—The “Giant

Crego” is distinct in every way, and its magnificent flowers, often 6 inches in diameter, have rare beauty of form and brilliant coloring, are very vigorous and free flowering.

**White, Shell-Pink, Rose, Purple, Lavender**

Pkt. 15c,  $\frac{1}{8}$  oz. 75c

**PACIFIC BEAUTY**—A rich true lavender, with big fluffy blooms on strong stems; free bloomer and great keeping qualities.

Pkt. 10c

**ASTER-MUM**—A selection from “Giant Comet.” Of immense size, resembling chrysanthemums in form, hence the name “Aster-mum.” Plants are about two feet high with good stems. A little earlier than “Crego.” Three colors. **White, Rose-pink, Lavender.**

Pkt. 10c, three, one of each color, 25c

**QUEEN OF THE MARKET**—Best early Aster, of graceful spreading habit.

**Light Pink, White, Dark Blue, Light Blue, Mixed.**

Pkt. 10c,  $\frac{1}{4}$  oz. 75c

**“MIKADO” OR ROCHESTER**—A favorite with florists. Has very long, narrow petals, toward the center they cross and recross in splendid confusion, strong branching habit.

**White, Shell-pink, Lavender, Purple**

Pkt. 10c,  $\frac{1}{8}$  oz. 50c

**SEMPLE'S LATE BRANCHING**—Flowers large, beautiful, double and borne on long stems.

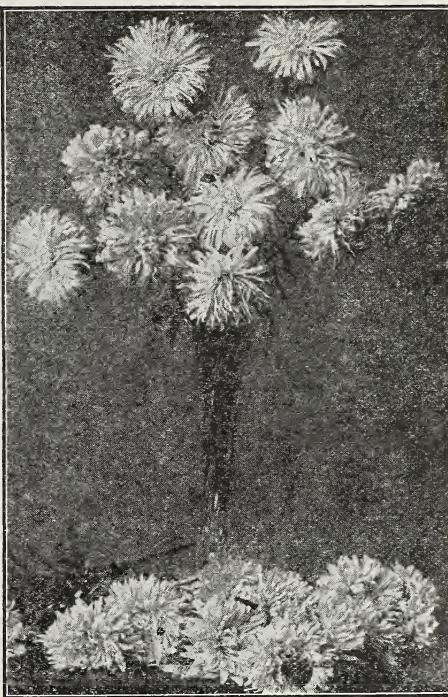
**White, Rose, Shell-Pink, Lavender, Purple, Mixed.**

Pkt. 10c,  $\frac{1}{4}$  oz. 75c

**GIANT COMET**—Flowers large and beautiful; petals long and twisted.

**Rose, Crimson, Dark Blue, Light Blue, White, Mixed.**

Pkt. 15c,  $\frac{1}{8}$  oz. 65c



### BEAUTY ASTERS

A recently developed late flowering strain, which begins to flower in early September, lasting until destroyed by frost. Large flowers borne on long, stout stems from 18 to 24 inches. Plants grow nearly three feet in height.

**American Beauty** ..... A bright crimson-rose

**Lavender Beauty** ..... A Soft Lavender.

**Purple Beauty** ..... A Deep, Rich Purple.

**September Beauty** ..... A Delicate Shell-Pink.

Packet 15c, 4 Packets for 50c

### ANNUAL BEDDING PLANTS

We have for early delivery fine large plants that can be set as soon as weather permits and with little care will bloom freely throughout the season.

Annual bedding plants are so inexpensive and satisfactory that they should be planted extensively for cut flowers in the home as well as for garden effects. They also make splendid displays in tubs and porch boxes.

**ASTER PLANTS** *In season we offer fine large plants of all Standard Varieties. These are well rooted and sure to give good results.* See Plant Dept.



## Annual Flower Seeds—Continued

**A C R O C L I N I U M**—*Everlasting*—Grows about 15 inches high, bearing white or rosy pink flowers, when cut in bud state, can be dried and used for winter bouquets. Sow seeds early in sheltered location and transplant to permanent bed.

Pkt. 10c, oz. 75c

**AGERATUM—Mexicanum Nanum**—Adapted for borders and bedding; covered with feathery blossoms all Summer; sow seed in early Spring in boxes to transplant or sow out of doors and thin to 4 to 6 inches. Shading from dark blue to white. 1 to 1½ feet tall. **Dark Blue, White or Mixed.** Pkt. 10c, ¼ oz. 25c

**ALYSSUM**—A dainty little white flower. Fine for borders, edging and rockwork. In borders, sow thickly so as to form masses. Varies in height from 4 to 10 inches. Sow in Spring or late August.

**Maritimum—Sweet.** Pkt. 10c, oz. 40c

**Maritimum—Little Gem.** Pkt. 10c, oz. 75c

**Procumbens**—Of trailing habit; profuse bloomer.

Pkt. 10c, oz. 75c

**AMARANTHUS**—Handsome foliage and interesting flowers, making a striking effect in borders and beds. Thrives in hot, sunny situation with rather poor soil. 2 to 5 feet. Sow early and transplant.

**Salicifolius**—Willow leaved. Pkt. 10c, oz. \$1.50

**Caudatus**—Graceful, drooping flowers.

Pkt. 10c, oz. 75c

**Tri-color, or Joseph's Coat**—Foliage scarlet, yellow and green.

Pkt. 10c, oz. 75c

**BACHELOR'S BUTTON—Centaurea Cyanus or Corn Flower**—A hardy annual, easily cultivated. Produces handsome flowers of a great variety of rich colors borne on tall, branching stems, with but little foliage. Striking and handsome. Sow seed in open ground early and transplant. 1 to 2 feet tall.

**Cyanus**—Fine single mixed. Pkt. 10c, oz. 25c

**Cyanus**—Fine double mixed. Pkt. 10c, oz. 75c

**Cyanus**—Single blue. Pkt. 10c, oz. 50c

**Cyanus**—Double blue. Pkt. 10c, oz. 75c

**Cyanus**—Double pink. Pkt. 10c, oz. \$2.00

**BALLOON VINE**—A rapid growing climber. Blossoms very small and white. Light, graceful foliage. Bears curiously inflated seed pods. Sow seed where it is to remain. Succeeds best in light warm soil. 10 to 12 feet tall.

Pkt. 10c, oz. 40c

**BALSAM**—“Lady Slipper”—Handsome plants, producing masses of various colored flowers, half hardy. Curious seed pods which, when ripe, will explode when touched. If sown in May should bloom from July until frost. 1 to 1½ feet tall.

**Double Camellia Flowered**—Mixed.

Pkt. 10c, ¼ oz. 25c

**CATCHFLY**—*Silene*—A hardy annual, yielding for a long time a profusion of umbels of bright colored flowers in various shades of pink. Fine for border or rockery. The plant is covered with glutinous moisture, to which flies adhere; hence its name. Sow in boxes and transplant as soon as large enough to handle. Grows 4 to 6 inches tall.

**Fine Mixed**—All Colors. Pkt. 10c, oz. 45c

**CALLIOPSIS**—Very showy and attractive, always covered with a mass of bright flowers ranging in color through yellow, crimson and maroon. Sow where plants are to remain, thinning to 6 to 12 inches. In sunny situation plants will bloom all Summer. Fine cut flowers. 1 to 3 feet tall.

**Crimson King.** Pkt. 10c, oz. 50c

**Golden Wave (Drummondii)** Pkt. 10c, oz. 50c

**Coronata Maxima.** Pkt. 10c, oz. 50c

**Tall Single Mixed.** Pkt. 10c, oz. 40c

**Tall Double Mixed.** Pkt. 10c, oz. 40c

**Dwarf Mixed.** Pkt. 10c, oz. 50c

**CANDYTUFT**—*Iberis*—One of the most highly prized annuals for beds or masses, very useful for cutting. For early blooms sow indoors, transplanting to garden when 2 to 3 inches high. Sowings every two weeks in the open will flower from July until frost. Grows 1 to 1½ feet tall.

**Giant Hyacinth Flowered**—White.

Pkt. 10c, oz. 75c

**Carmine, Crimson, Lavender, Mixed.**

Pkt. 10c, oz. 45c

**CASTOR BEAN**—*Ricinus*—Tropical appearing foliage plant. Highly ornamental, of stately growth and having large leaves of bronze or glossy green. Should not be planted until soil is warm. Grows 3 to 5 feet tall.

**Sanguineus**—Brilliant scarlet stems and fruit.

Pkt. 10c, oz. 25c

**Zanzibariensis**—Surpasses all in size and beauty of colors. **Mixed.** Pkt. 10c, oz. 25c

**Mixed**—Best varieties. Pkt. 10c, oz. 25c

**CALENDULA**—*Pot Marigold*—The well-known Pot Marigold, valued by Europeans for flavoring soups and stews. Flowers are dried in Fall and kept in paper bags for use. In mild climates this plant will bloom nearly all the year around. Colors range through yellow, orange and gold. 1 to 2 feet tall. Plant in early Spring in open ground.

**Orange King**—Double Pkt. 10c, oz. 35c

**Meteor**—Double Pkt. 10c, oz. 20c

**Double Sulphur.** Pkt. 10c, oz. 20c

**Double Mixed.** Pkt. 10c, oz. 20c

**CELOSIA CRISTATA**—*Cockscomb*—Very attractive and showy, producing massive heads of deeply colored flowers. Colors red, purple and yellow. Sow very thinly in boxes indoors, transplanting to other boxes or thumbpots until little combs appear. If wanted for border, may be set with combs in a straight line. Grows 9 to 12 inches tall.

**Cockscomb Tall.** Pkt. 10c, oz. \$1.50

**Dwarf Empress.** Pkt. 10c, oz. \$3.00

**Dwarf Fine Mixed.** Pkt. 10c, oz. \$3.00

**CELOSIA PLUMOSA**—(*Feathered*)—Large plump heads of crimson or yellow. For pots or open ground. Keeps well when cut. Grows 1 to 2 feet tall.

**Thompsoni Magnifica**—Yellow.

Pkt. 10c, oz. \$1.50

**Thompsoni Magnifica**—Crimson.

Pkt. 10c, oz. \$1.50

**Childsii**—(*Chinese Wool Flower*) Pkt. 15c

## Annual Flower Seeds—Continued

**COSMOS**—Seed sown indoors in March or April and transplanted to open ground will produce plants 3 to 5 feet high by September, which thereafter and until November will yield hundreds of blossoms 3 inches across; they are of various shades, from pure white to purplish crimson. Both foliage and flowers are unsurpassed for bouquets and vases. (Plants in season.)

**Lady Lenox**—A magnificent type of extraordinary size and rare beauty. Color a delightful pink. Beautiful under artificial light.

Pkt. 10c, oz. 50c

**Lady Lenox**—White. Pkt. 10c, oz. 50c

**Klondyke**—Blooms very early and continuously; 3 to 4 feet high; flowers large, golden yellow and borne on long stems.

Pkt. 10c, oz. \$1.50

**Mammoth Flowering**—Mixed. Pkt. 10c, oz. 75c

**Marguerite**—New and odd; very pretty, petals fringed. Mixed. Pkt. 10c, oz. \$1.50

**New Double Mixed.** Pkt. 25c

**Double Crested Mixed.** Pkt. 20c

**CHRYSANTHEMUM**—Very showy, effective and desirable as Summer flowering plants. Hardy annuals. Sow seeds in flats very early in Spring and transplant to garden when soil is warm. Grows 1 to 2 feet.

**Carinatum**—*Northern Star*—Giant white, black center. Pkt. 10c, oz. 50c

**Carinatum**—Single finest mixed. Pkt. 10c, oz. 40c

**Corinarium**—Double finest mixed. Pkt. 10c, oz. 40c

**DELPHINIUM**—See Larkspurs.

**CLEOME**—A splendid plant for large beds or shrubbery border. Of branching habit, each branch producing a large head of attractive flowers. Sow seed in open ground as soon as weather is warm and settled. Height 3½ feet. Mixed. Pkt. 10c, ¼ oz. 25c

**CENTAUREA IMPERIALLIS**—Sweet scented flowers on long, strong stems. Will last several days when cut. Colors white, pink, rose and purple. Sow where plants are to remain, thinning to 12 inches apart. Grows 1 to 3 feet tall.

**White, Purple or Rose.** Pkt. 10c, oz. \$1.50  
**Suaveolens.** Pkt. 10c, oz. \$1.25

**Moschata**—Mixed. Pkt. 10c, oz. \$1.25  
**Candidissima.** Pkt. 10c, oz. \$3.00

**CLARKIA**—Hardy annual of easy growth, produces a fine effect massed in beds, bright and attractive. Fine for cutting. Does well in shade. Sow early in open ground and thin to 6 inches. Grows 1 to 2 feet tall.

**Elegans**—*Salmon Queen*—Double. Pkt. 10c, oz. \$3.00

**Elegans**—*Scarlet Queen*—Double. Pkt. 10c, oz. \$3.00

**Elegans**—White—Double. Pkt. 10c, oz. \$1.50

**Elegans**—Double mixed. Pkt. 10c, oz. \$1.00

**COBEEA SCANDENS**—(*Plants in Season*)—A handsome, rapid-growing, climbing plant, having large, bell-shaped flowers, beautiful foliage and peculiarly delicate and curious tendrils. Seeds should be planted on edge in shallow boxes of soft soil, covering with glass until seedlings appear. Transplant to permanent location about May. Grows to a height of 12 to 15 feet.

**Purple.** Pkt. 10c, oz. \$1.25  
**White.** Pkt. 10c, oz. \$1.75

**CYPRESS VINE**—*Ipomoea Quamoclit*—Climber with rapid growth. Has delicate fern-like foliage and great numbers of star-shaped blossoms with long tubes. Soak seeds over night in warm water, then sow where vine is to grow. Does best in warm, sunny location. Grows 10 to 15 feet.

**White, Scarlet or Mixed.** Pkt. 10c, oz. \$1.25

**EUPHORBIA**—Branching, bushy plants with smooth, glossy leaves of various colors. Suitable for beds or borders. Sow seeds in open ground, transplanting when few inches high. Give plenty of room. Good foliage plant. Height 2 to 3 feet.

**Heterophyllia**—Painted leaf. Annual poinsettia. 3 feet. Pkt. 10c, oz. \$2.25

**ESCHSCHOLTZIA**—*California Poppy*—These are generally classed and grown as annuals, but are true, hardy perennials. See description under perennials.

**FOUR O'CLOCK**—*Mirabilis Jalapa*—**Marvel of Peru**—Easy culture, bearing a profusion of bright flowers of various shades. Flowers open at four o'clock, close in morning. Sow seeds early in the open and transplant. Should be 15 to 18 inches apart. Grows 2 to 3 feet high.

**Choice Mixed.** Pkt. 10c, oz. 35c

**GAILLARDIA**—*Blanket Flower*—Very showy garden plant, with brilliant flowers; free blooming from early Summer until Autumn; especially effective in masses. Sow seeds early where plants are to bloom. Thin to 12 inches. Colors crimson, brown and orange. Splendid cut flower. Height 1 to 2 feet.

**Picta Lorenziana**—Double; finest mixed; annual. Pkt. 10c, oz. \$1.00

**GODETIA**—Profuse and constant bloomers, compact and bushy in growth. Colors rose, crimson, white and pink. Sow seeds indoors in boxes and transplant. Succeeds in poor soil. Height 1 foot.

**Dwarf. Fine Mixed.** Pkt. 10c, oz. \$1.00  
**Gloriosa. Dark Red.** Pkt. 10c, oz. \$1.25

**Duchess of Albany. White.** Pkt. 10c, oz. \$1.00

**GOURDS**—Good climber. For covering verandas and trellis work; rapid growth, bearing fruits of curious shapes. Plant after soil is warm. Height 10 to 20 feet.

**Calabash.** Pkt. 10c, oz. 35c  
**Mixed Varieties.** Pkt. 10c, oz. 35c



## ANNUAL FLOWER SEEDS—Continued

**GYPSOPHILA**—(*Annual*)—**Grandiflora Elegans**—Easily raised from seed. Grows from 18 to 24 inches, bearing beautiful, large, star-shaped flowers in great profusion. First sowings should be made in flats very early and transplanted out when 2 to 3 inches high. Make later sowings in open ground for continuous supply. **White.** **Pkt. 10c, oz. 35c**

**HELICHRYSUM**—*Straw Flower*—**Monstrosum**—Everlasting. One of the best for Winter bouquets. Hardy annual. Colors, red, yellow and white. Effective for bedding. Sow seeds in open and transplant or thin to 12 inches. **Double Mixed.** **Pkt. 10c, oz. \$1.00**

**HYACINTH BEAN**—*Dolichos Lablab*—Rapid growing, ornamental, climbing annual, bearing clusters of beautiful purple and white flowers, followed by highly ornamental seed pods. Sow seeds early where vine is to remain. Height 10 to 12 feet. **Mixed.** **Pkt. 10c, oz. 20c**

**HOLLYHOCKS**—*New Annual*—**Hybrida Semperflorens**—This splendid variety will bloom in August, from Spring planting, continuing until frost. This is a great advantage, as other varieties do not bloom until the second year. Try them. **Finest Single Mixed.** **Pkt. 10c, oz. \$1.00**

**HUNNEMANNIA**—*Giant Yellow Tulip Poppy or Bush Eschscholtzia*—**Fumariaefolia**—Best of the poppy family for cutting. Seed sown early in May will, by the middle of July, produce plants covered with their large, buttercup yellow, poppy-like blossoms, and never out of flower until a hard frost. Height 2 to 3 feet. **Pkt. 10c, oz. 75c**

**ICE PLANT**—*Mesembrianthemum Crystalinum*—Pretty Summer trailing annual for vases and rock work: leaves covered with ice-like drops. Sow seeds early in boxes. Height  $\frac{1}{2}$  to 1 foot. **Pkt. 10c, oz. 75c**

**KOCHIA CHILDSII**—*Summer Cypress*.—Forms symmetrical highly decorative bushes, foliage green, turning to fiery red in Autumn. Sow seeds in open and thin to 15 inches. Valuable for Summer hedges. Height 1 to 2 feet. **Pkt. 10c, oz. 25c**

**LINUM**—*Crimson Flax*—*Annual*—Beautiful and effective; hardy, about 18 inches high; covered with bright scarlet flowers. **Pkt. 10c, oz. 35c**

**LARKSPUR**—*Annual*—The annual Larkspurs are quite hardy and bloom in the later Summer months, furnishing flowers of striking beauty in form and color. Tall varieties are suitable for shrubberies and borders, while the dwarf sorts produce charming effects in beds. Height 1 to 2 feet.

**Dwarf Rocket**—Finest colors, Double mixed. Hardy annual. **Pkt. 10c, oz. 50c**

**Tall Double Stock Flowered**—Lustrous Carmine, Dark Blue, Rose, White or Finest mixed. **Pkt. 10c, oz. \$1.00**

**LOBELIA**—Delicate, low-growing, annual plants of the greatest value for borders, ribbons, edgings, rock work and hanging baskets. Sow seeds very thinly in boxes, covering with glass until seedlings are through surface. Plant out when 1 inch high. Height 6 to 8 inches.

**Saphir**—Deep blue with white eye, long, drooping flower stalks; fine for hanging baskets or boxes; grows rapidly. **Pkt. 10c, oz. \$8.00**

**Speciosa**—Dark blue and dark leaved, trailing. **Pkt. 10c, oz. \$4.00**

**Gracilis**—Blue, trailing; beautiful for baskets. **Pkt. 10c, oz. \$2.00**

**Crystal Palace Compacta**—Dwarf flowers, very fine and rich, bright blue; finest for bedding and edging. **Pkt. 10c, oz. \$4.00**

**MARIGOLD**—*Tagetes*—A hardy plant in dwarf and tall varieties; foliage bright green and deeply cut. Flowers are various shades of yellow and brown. Sow seeds early in flats and transplant to garden when 3 to 4 inches tall. For specimen plants soil should be light, rich and deeply spaded. Height 1 to  $2\frac{1}{2}$  feet.

**African.** Tall or Dwarf, Double Mixed. **Pkt. 10c, oz. 75c**

**French.** Dwarf or Tall Double Mixed. **Pkt. 10c, oz. 75c**

**French.** Tall Striped Double. Extra select. **Pkt. 10c, oz. \$1.25**

**Golden Ball.** New Dwarf. Very compact. **Pkt. 10c, oz. 75c**

**Legion d'Honneur.** Dwarf Single. **Pkt. 10c, oz. 75c**

**MIGNONETTE**—*Reseda*—A quick-growing fragrant annual. Produces the largest and finest spikes of blossoms during cool, moist weather of early Spring and late Fall months, but will flower freely throughout the Summer from seed sown early in Spring. A second planting should be made about the first of August to furnish large, fine spikes of flowers during the cool Fall months. Sow seeds where plants are to remain, as seedlings are difficult to transplant successfully. Thin to 6 to 12 inches. Height 1 foot.

**Odorata Grandiflora**—Large, well-formed, fragrant flowers. **Pkt. 10c, oz. 35c**

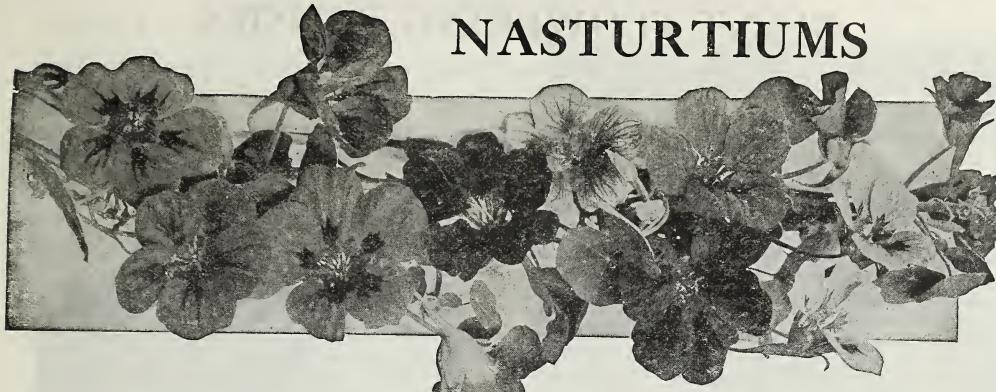
**Machet**—White. White with reddish tinge. Best white, dwarf variety. **Pkt. 10c, oz. 75c**

**Golden Queen**—Dense, dwarf growth; flower golden yellow; very fragrant. **Pkt. 10c, oz. 75c**

**Goliath**—Red. Dwarf, compact, flowers red; fine. **Pkt. 10c, oz. 75c**

**MOON FLOWER**—*Ipomoea Mexicana Grandiflora*—Rapid growing climber belonging to the "Morning Glory" family. At night and on cloudy days vine is covered with fragrant white flowers 4 to 5 inches in diameter. Seeds must be soaked then planted where vine is to remain, thinning to 12 inches. Height 10 to 12 feet. **Pkt. 10c, oz. 75c**

# NASTURTIUMS



**N**ASTURTIUMS are hardy annuals, of easy culture and flower best where the soil is not too rich. The new hybrids include various shades of rose, salmon, bright red, pale yellow, etc., either self-colored or spotted, mottled, striped and margined.

For covering trellises, fences, arbors, piazzas, trailing from vases, over rockwork, for bedding, etc., nothing can equal the gorgeous effect produced by their marvelous wealth of bloom, borne in uninterrupted splendor from early Summer until cut down by frost. The seeds, picked green and pickled in vinegar have a piquant, appetizing flavor that is a valuable addition to relishes or pickles.

## Tall Varieties

**CHAMELEON**—Variable flowers marked and blotched in many brilliant colors.

**KING THEODORE**—Large, velvety crimson flowers, very attractive dark green leaves.

**MOONLIGHT-PEARL**—Soft primrose.

**DUNNETT'S ORANGE**—Large, bright, pure orange flowers.

**PRINCE HENRY**—Fine lemon yellow, clear carmine blotches.

**SALMON QUEEN**—Extra large light salmon, suffused rosy salmon.

**RUBY**—Beautiful ruby red. Fine open flowers.

### NAMED VARIETIES

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c

**MIXTURE**—Standard tall varieties.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 45c

## Ivy Leaved

**TALL MIXED**—Climbing habit with pointed leaves of rich ivy green veined white, resembling English Ivy. Flowers have narrow petals and are quite distinct and pleasing.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 75c

**DWARF MIXED**. Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 75c

**MORNING GLORY**—The tall varieties are popular, well known, rapid growing climbers of the easiest cultivation, attaining a height of 10 to 12 feet. Very fine for covering arbors, trellises, porches, etc. The Minor, or Dwarf varieties flower very freely and do not require support. Plant seeds early where plant is to remain.

**Convolvulus Major**—Tall, choice single, mixed, all colors.

Pkt. 10c, oz. 25c

**Double Mixed**—Tall. Pkt. 10c, oz. 50c

**Convolvulus Minor**—Dwarf mixed.

Pkt. 10c, oz. 25c

**Imperial Japanese Fringed**—These have very large fringed flowers in a great variety of the most exquisite colorings; handsome, variegated foliage. Mixed.

Pkt. 10c, oz. 40c

## Dwarf Varieties

**CHAMELEON**—Variable colorings in bronze, crimson and yellow, rich markings.

**CLOTH OF GOLD**—Brilliant scarlet, golden yellow leaves.

**EMPEROR OF INDIA**—Intense scarlet, purplish green leaves.

**PRINCE HENRY**—Lemon yellow, with carmine blotches.

**VESUVIUS**—A rich salmon orange, dark foliage.

### NAMED VARIETIES.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 60c

**MIXTURE**—Standard varieties.

Pkt. 10c, oz. 20c,  $\frac{1}{4}$  lb. 50c

## Variegated

**TALL MIXED**—Foliage beautifully marked and marbled yellow and cream on the green ground, some leaves appearing almost white. Flowers come in all colors and markings.

Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 85c

**DWARF MIXED**. Pkt. 10c, oz. 25c,  $\frac{1}{4}$  lb. 85c

**MIMOSA**—*Sensitive Plant*—**Pudica**—A good foliage plant. Very curious and interesting, leaves close if touched or shaken; annual. Height 1 to  $1\frac{1}{2}$  feet.

Pkt. 10c, oz. \$1.00

**NIGELLA**—*Love-in-a-Mist*, or *Devil-in-the Bush*—Compact growing, free flowering plants with curious looking, showy flowers and finely cut foliage. Colors blue and white. Sow about April and thin to 8 to 10 inches. Height 1 to 2 feet. Hardy annuals.

**Mixed Colors.** Pkt. 10c, oz. 40c

**Miss Jekyll**—Cornflower Blue.

Pkt. 10c, oz. 75c

## GIANT FLOWERING PANSIES

FOR years local experts have grown our Giant Pansies and co-operated in securing the finest strains from the world's most celebrated growers. These have been carefully re-selected and bred up to their present surpassing excellence, and for giant size, substance, form and coloring we have never seen Pansies to compare with them. Named varieties and special strains are grown separately and the seed collected by hand and carefully blended into what we believe to be the finest mixture ever offered.

**ADONIS**—A distinct and beautiful shade of light blue with white center and dark blotch, most pleasing and attractive. **Pkt. 10c**

**GOLDEN QUEEN**—A rich, pure yellow of the grandest form and size. A valuable addition to the yellows. **Pkt. 10c**

**GIANT DARK BLUE**—A splendid blue black, very elegant, and of good substance. **Pkt. 10c**

**GIANT STRIPED**—A superior strain of truly giant pansies, with the most beautiful striped markings in richest dark shades. **Pkt. 10c**

**VIOLET BLUE**—A new giant variety of a brilliant, dark indigo blue, with violet luster, each petal having a large, dark brown, veined blotch. Edges slightly ruffled. **Pkt. 15c**

**KING OF THE BLACKS (Giant)**—Immense velvety back flowers of the finest quality the largest and best black pansy. **Pkt. 10c**

**MADAME PERRET**—A beautiful and distinct type with edges of petals frilled—bordered white, colors are dark wine—pink and red, beautifully veined. The earliest of the Giants, and has the sweetest perfume. **Pkt. 15c**

**SNOW FLAKE**—A grand, pure white, of extra fine quality. **Pkt. 10c**

**CORNFLOWER BLUE**—A dainty cornflower blue, large, good substance. **Pkt. 10c**

### FANCY STRAINS OF MIXED PANSIES

**FINE MIXED**—A fine assortment of colors. **Pkt. 10c, 1/4 oz. 50c**

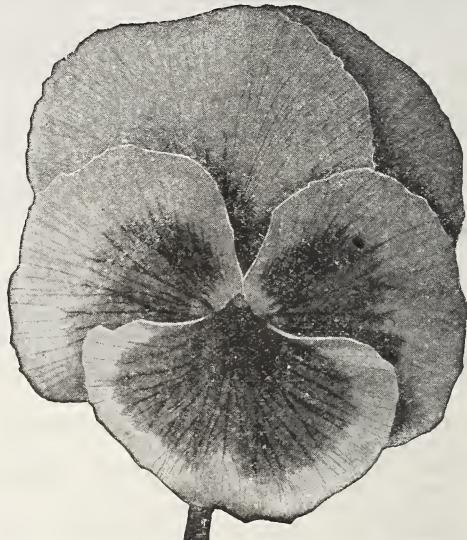
**TRIMARDEAU GIANTS**—Of remarkably large size and robust growth: very fine. **Pkt. 10c, 1/4 oz. 85c, oz. \$3.00**

**OREGON GIANT PANSIES—MIXED**—Our Oregon Giants are a selection of the finest strains and named varieties from the foremost American and foreign growers. This seed has been gathered by hand for several seasons from selected plants grown here in Oregon and will produce plants and flowers of unsurpassed quality in the most pleasing colors and shades. **Pkt. 25c, 1/4 oz. \$1.25, oz. \$4.50**

**NICOTIANA**—A very showy plant, producing star-shaped flowers of delicious perfume. Taken up in the Fall, cut back and potted, will bloom freely all Winter. Half hardy annual; 3 feet high. Sow seeds in boxes indoors or in a sheltered situation in the open. Transplant when 2 inches high. For best results give plenty of room, very rich soil and full sunlight.

**Affinis**—White. Sweet-scented. **Pkt. 10c, oz. 75c**  
**Sylvestris**—Pure white, fragrant, drooping flowers; deep green foliage. **Pkt. 10c, oz. 75c**  
**Sanderae**—Resembles the "Affinis," but unlike that variety, does not close up in the daytime. The plants are covered with carmine-red, fragrant flowers. **Pkt. 10c, oz. \$1.25**

**Hybrida**—Splendid mixed. **Pkt. 10c, oz. \$1.00**



**MASTERPIECE—GIANT RUFFLED**—The mammoth size, richness and beauty of colorings and frilled or ruffled character of the petals make "Masterpiece" one of the most distinct and interesting Pansies. **Pkt. 25c**

**OREGON GIANT PANSIES IN BLOOM**—From March until June we offer our famous "Oregon Giant" Pansy plants in full bloom. Put up one dozen in a basket. Mailing weight four pounds.

**Price: 60c to \$1.00 per basket, not prepaid.**

**SPECIAL**—Transplanted Seedling Plants just turning into buds can be furnished. Florists and gardeners should write for prices on these plants, as large orders can be quoted at very low prices.

**OENOTHERA—Evening Primrose**—Elegant for growing in an exposed position, in border or on rockery; constant bloomer all Summer. Shades of yellow. Sow seeds early in boxes, covering very lightly with fine soil firmly pressed down. Transplant seedlings.

**Fine Mixed** **Pkt. 10c, oz. 65c**

**POTULACA—Rose Moss**—Brilliant dwarf annuals, only 6 inches high, luxuriating in warm situations, and blooming profusely in early Summer to Autumn. For low beds and masses of color from Spring until frost, they are indispensable: colors range through innumerable shades of red, yellow, pink, white, striped, etc. Sow seeds indoors. Thrive best in hot and dry situation.

**Single Mixed.** **Pkt. 10c, 1/4 oz. 30c**  
**Double Mixed.** **Pkt. 10c, 1/4 oz. 75c**

## Annual Flower Seeds—Continued

**PETUNIA—*Hybrida***—During the whole season it is covered with large, showy blossoms, which are always bright and fresh, in spite of heat and drought. The flowers are of an almost infinite variety of colors and markings, and quite as varied in form: large and small, fringed and plain, double and single. Hardy Annual. Sow seeds very thinly indoors under glass. Care should be taken to save the weaker seedlings as they produce the finest flowers. Transplant to garden when soil is warm. Height 1 to 1½ feet.

Single Choicest Mixed.	Pkt. 15c
Double Choicest Mixed.	Pkt. 35c
Single Fringed—Finest Mixed.	Pkt. 25c
Double Fringed Mixed.	Pkt. 50c
<b>Giants of California—Choicest Mxd.</b>	<b>Pkt. 25c</b>

**ELKS BRIDE**—Deep (Elks) Purple. Large flowers, fine for window boxes, borders and bedding. **Pkt. 50c**

**CITY OF PORTLAND**—One of the finest shades of pink. Flowers large and ruffled. Fine for borders or bedding. **Pkt. 50c**

**POPPY—*Papaver***—Magnificent, showy flowers borne separately on tall stalks in many bright and charming colors. Some are hardy annuals, others are perennials. Sow seeds very early where they are to remain. Barely cover seed with fine soil and press down firmly. Thin to one foot. If cut before fully open blossoms will last several days. Height 1 to 3 feet.

**Double Carnation Flowered—Fringed: assorted colors. Mixed, Pkt. 10c, oz. 40c**

**Shirley**—Finest Mixed. The range of color, extending from white through delicate shades of pink, rose and carmine, to the deepest crimson: fine for cutting. **Pkt. 10c, oz. 50c**

**Double American Flag**—White bordered with scarlet. **Pkt. 10c, oz. 50c**

**King Edward**—Large flowers produced with great freedom. Deep scarlet, shaded crimson, red, with large black blotch. Height 2½ feet. **Pkt. 10c, ¼ oz. 25c**

**Glaucum**—(*Tulip Poppy*)—Brilliant scarlet flowers 3 inches across. **Pkt. 10c, oz. 75c**

**PHLOX DRUMMONDI**—Unrivaled for richness and beauty of color, ranging from white to the deepest scarlet and purple. For cutting, for bouquets or for bedding in masses they are unsurpassed. Hardy annual, one foot high. Sow as soon as soil is warm. Transplant about one foot apart.

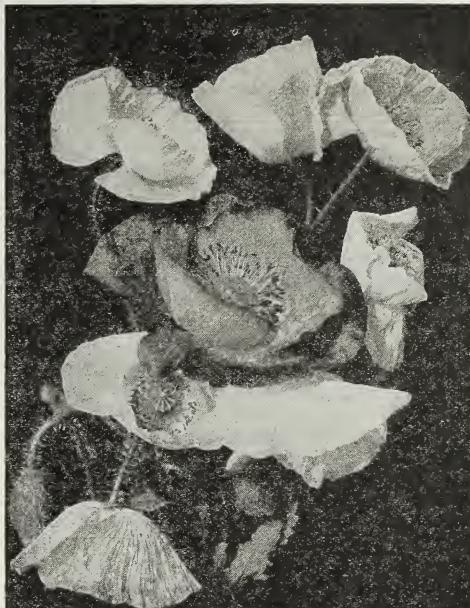
**Large Flowering**—Scarlet, white or mixed. **Pkt. 10c, ¼ oz. 75c**

**Dwarf Mixed** **Pkt. 10c, ¼ oz. \$1.25**

**Star Phlox—(*Cuspidata*)**—Flowers have a distinctive star-like appearance, with white margins, excellent for bouquets. **Pkt. 10c, ¼ oz. 75c**

**SALPIGLOSSIS—Painted Tongue**—Showy, unnel-shaped flowers of large size. Fine for beds. Half-hardy annuals. Sow seeds in boxes indoors or in a hotbed and transplant to one foot apart when soil is warm.

**Superbissima**—Finest mixed. **Pkt. 10c, ¼ oz. 60c**



Shirley Poppies

**SALVIA—*Flowering Sage***—Very ornamental; flowers borne in spikes of fiery red or crimson, and continue in bloom in open ground until after severe frosts. Start in heat and transplant into light soil, one to two feet apart. Excellent for bedding in masses or single planting. Hardy annuals.

**Salvia Zurich**—*New Dwarf Early*. The finest of all Dwarf Salvias. Very floriferous. **Pkt. 10c, ⅛ oz. \$1.00**

**Salvia Splendens**—Brilliant scarlet. **Pkt. 10c, ¼ oz. \$1.00**

**Bonfire**—(*Clara Bedman*)—One of the finest Salvias ever introduced: compact bush about two feet in height and diameter. Its erect spikes of flowers of brilliant scarlet stand clear above the dark green foliage and completely cover the plant. **Pkt. 10c, ¼ oz. \$1.25**

**SCHIZANTHUS—*Butterfly Flower***—Beautifully fringed and delicately colored flowers so numerous as to hide the foliage. Splendid bedding plant. Seeds sown in open come into bloom in a few weeks. Fine pot plant for house in Winter. Height 1 to 2 feet.

**Mixed Colors.** **Pkt. 10c, ¼ oz. 25c**

**STOCKS—*Dresden Perpetual or Branching***—These ten weeks everblooming are popularly called, "Cut and Come Again." Sown in March they flower profusely from July until frost: their best period being late Autumn. Very fragrant.

**Princess Alice**—White. **Pkt. 15c, ¼ oz. 75c**

**La France**—Blush pink. **Pkt. 15c, ¼ oz. 75c**

**Brilliant**—Blood red. **Pkt. 15c, ¼ oz. 75c**

**Sapphire**—Violet. **Pkt. 15c, ¼ oz. 75c**

**Creole**—Canary yellow. **Pkt. 15c, ¼ oz. 75c**

**May Queen**—Pale blue. **Pkt. 15c, ¼ oz. 75c**



## Annual Flower Seeds—Continued

**STOCKS—Double Ten Weeks**—These popular flowers are easily grown, and are so highly fragrant and of such beauty that they deserve a place in every garden. They are great improvements over the Gilliflowers of the olden times. Seeds should be sown under glass in a warm place, giving plenty of air after seedlings are up. Transplant when about 2 inches high. Winter stocks should be potted before frost. Height 1 to 1½ feet.

**Dwarf Large Flowering**—White, crimson rose, light blue, or mixed. Pkt. 15c, ½ oz. 50c

**Virginian Stock**—A fine, early flowering plant. Hardy annual. Mixed. Pkt. 10c, ¼ oz. 15c

**STOCKS—Early Branching, Large Flowered.**—  
**Beauty of Nice**—Very large flowers of a delicate flesh pink. Extra fine.

Pkt. 15c, ½ oz. 60c

**Crimson King**—Rich blood crimson. Pkt. 15c

**Mont Blanc**—Purest white. Pkt. 15c

**Monte Carlo**—Canary yellow. Pkt. 15c

**Queen Alexandra**—Soft rosy lilac. Pkt. 15c

**Mixed.** Pkt. 15c, ½ oz. 60c

**SCABIOSA—Sweet Scabious, or Mourning Bride**—Free flowering annuals; white, carmine, lilac, maroon, etc; effective for garden decoration and valuable for cutting. Sow seeds in open as soon as soil is warm, thinning to 8 to 10 inches. Blooms from early July until frost. Height 2 to 2½ feet.

**Double—Mixed.** Pkt. 10c, ¼ oz. 25c

**SUNFLOWER—Helianthus**—Stately growing annuals with immense golden yellow flowers; effective for garden decoration. Height 6 to 8 feet.

**Dwarf Double**—Bright golden yellow flowers three inches across. Pkt. 10c, oz. 50c

**Globosus Fistulosus**—Saffron, very large, double and handsome. Pkt. 10c, oz. 35c

**Multiflora**—Beautiful, double yellow flowers. Pkt. 10c, oz. 50c

**DIAMOND FERTILIZERS**  
Make Beautiful Flowers

**THUNBERGIA—Black Eyed Susan**—Rapid-growing annual climbers; splendid for trailing over trellises, fences, etc.; buff, white, orange, etc., four to six feet high. Grows readily from seed sown in the open.

**Mixed Colors.** Pkt. 10c, ¼ oz. 35c

**VERBENA**—Start seed in the house or under glass early in the Spring and transplant after three or four inches of growth. They flower in July and continue strong and healthy until frost. Height 8 to 12 inches.

**Mammoth Mixed**—Selected: extra large, fine.

Pkt. 15c, ¼ oz. 75c

**Fine Mixed.** Pkt. 10c, ¼ oz. 50c

**Candidissima**—White. Pkt. 10c, ¼ oz. 50c

**Scarlet Defiance.** Pkt. 10c, ¼ oz. 50c

**Pink Shades.** Pkt. 10c, ¼ oz. 75c

**Blue Shades.** Pkt. 10c, ¼ oz. 75c

**ZINNIAS—New Dahlia Flowered**—This is a new and distinct race of Zinnia, which will greatly increase the popularity of this flower. The plants of this new race are very sturdy and produce many flowers with stout stems. In formation the broad petals are closely imbricated, sometimes seeming almost to be piled one upon the other. The flowers in full bloom often measure four inches in depth and six to eight inches in diameter. In general appearance the flowers compare favorably with the Show Dahlias. The flowering season lasts from July until the frost comes. Easily grown from seed sown in the open and thinned to one foot apart. For specimen plants, sow indoors early and transplant into rich soil. Wide range of colors. Height 1 to 2 feet.

**Dahlia Flowered Mixed.** Pkt. 25c

**Picotee Type.** Pkt. 15c

**Victory Quilled.** Pkt. 15c

**Double Giants, Grandiflora Robusta**—

Crimson, blush pink, golden yellow, scarlet, white and special mixed. Pkt. 10c, oz. \$1.25

**Dwarf Double Mixed.** Pkt. 10c, ¼ oz. 30c

## Popular Annual Bedding Plants

Annual bedding plants are so inexpensive and satisfactory that they should be planted extensively for cut flowers in the home as well as for garden effects. They also make splendid displays in tubs and porch boxes.

We have for early delivery fine large plants that can be set as soon as weather permits and with little care will bloom freely throughout the season. Prices are per dozen, f.o.b. Portland.

Alyssum.....	\$0.50	Clarkia.....	\$0.50	Larkspur.....	\$0.50	Pinks.....	\$0.50
Asters.....	.50	Cosmos.....	.50	Lobelia.....	.50	Salpiglossis.....	.50
Carnations.....	1.00	English Daisies..	.50	Marigold.....	.50	Salvia.....	.70
Calliopsis.....	.50	Forget-Me-Not..	1.00	Mignonette.....	.50	Stocks.....	.50
Candytuft.....	.50	Geraniums, 75c to 2.00	.75	Petunia.....	.75	Verbena.....	.50
Centaurea.....	.50	Heliotrope.....	.75	Phlox.....	.50	Zinnias.....	.60

**Plant Annuals in the bulb beds.** After the bulbs are through blooming they should be allowed to grow until late Summer, and the beds can be made very attractive with annual flowering plants without disturbing the bulbs. Forget-me-nots, Petunias, Pinks, Poppies, Verbenas and Candytuft are among the best.



## HARDY PERENNIAL FLOWER SEEDS

**AGROSTEMMA**—*Coronaria*—Foliage silvery white, blossoms crimson, resembling single pinks. Strikingly beautiful for beds, ribbons and borders. Seeds should be sown where plants are to remain and thinned to prevent crowding. Height 2 feet.

Perennial.

Pkt. 10c, oz. 75c

**ALYSSUM**—*Saxatile*—Showy, bright yellow flowers, blooms the first season if sown early indoors. Fine for borders. Height 6 to 12 inches

Pkt. 10c, 1/4 oz. 50c

**ANCHUSA**—*Italica*—**Dropmore**—A splendid, free blooming plant for hardy borders, growing to a height of about 5 feet. Flowers are of a beautiful gentian-blue color. Seeds should be sown in sheltered place outdoors and transplanted when large enough to handle. Should be 2 to 3 feet apart.

Pkt. 15c, oz. \$1.50

**ANTIRRHINUM**— *Snapdragon*—One of the most useful and showy of border plants of almost every color. Also makes splendid cut flowers. They have recently been much improved and are now really magnificent. Hardy perennial. For best results plant seeds indoors very early, planting out when about 3 inches high. Height 2 to 3 feet.

**Tall Giants**—White, yellow, scarlet.

Pkt. 10c, 1/8 oz. 25c

**Queen Victoria**—Large; pure white. Tall.

Pkt. 10c, 1/8 oz. 50c

**Tall, Finest Mixed.** Pkt. 10c, 1/8 oz. 25c

**Dwarf, Finest Mixed.** Pkt. 10c, 1/8 oz. 25c

**ARABIS**—*Rock Cress*—One of the earliest and prettiest Spring flowers unequaled for rockeries or edging, withstands the drought, pure white flowers. Sow seeds in permanent location and thin to 6 inches. Height 6 to 8 inches.

**Alpina.** Pkt. 10c, 1/4 oz. 25c

**ASTERS**—Hardy Perennial—*Michaelmas Daisy*—Handsome flowers of easy culture, appearing at a time when flowers are scarce; make attractive garden display as well as cut flowers. If seed is sown indoors very early and seedlings set in open as soon as large enough to handle, they will bloom the first season. Do best in a sunny location. Height 2 to 3 feet.

**Large Flowering Mixed.** Pkt. 10c, 1/4 oz. 50c

**CANTERBURY BELLS**—*Campanula*—Very ornamental garden plants growing 2 1/2 feet high, producing large, nodding and charming bell-shaped flowers of many exquisite shades; hard biennial. Sow seeds in May. Keep seedlings well watered and transplant to permanent location in July or August. Give rich soil and plenty of room.

**Media Single**—Blue, rose, white or mixed.

Pkt. 10c, 1/4 oz. 35c

**Calycanthema**—(Cup and Saucer)—White, pink, light blue or mixed.

Pkt. 10c, 1/4 oz. 75c

**Persicifolia**—Very fine, blooms in June, Blue or White.

Pkt. 15c, 1/8 oz. \$1.00

**Pyramidalis**—Stately, hardy plant for pot culture or garden. Blue or white.

Pkt. 10c, 1/4 oz. 75c

**CARNATION**—*Dianthus Caryophyllus*—

Carnations are Tender Perennials, being easily winter killed. Splendid for cut flowers, deliciously fragrant. Colors pink, white and red. Sow seeds indoors in March. Transplant seedlings to other boxes when 1 inch high. Keep them growing well until soil is warm, then transfer to open garden. Height 1 to 1 1/2 feet. **Fine Plants in Season.** See Plant Dept. **Chabaud Everblooming**—Flowers in five to six months from sowing.

**Extra Choice Double Mixed.** Pkt. 15c

**Margaret Carnations**—Bloom in four months from seed.

**Finest Double Mixed.** Pkt. 10c, 1/8 oz. 50c

**Giant or Malmaison—Mixed** Pkt. 15c

**CINERARIA**—Magnificent and indispensable flowering plants for the window garden. The flowers of white, blue, violet, and crimson shades, covering the plant with a sheet of bloom. Seeds very fine. Should be sown under glass in very fine soil. Pot off seedlings and shift from size to size as necessary.

**Hybrida**—*Grandiflora*, prize mixed. Extra choice.

Mixed Pkt. 50c

**Fine Mixed.** Pkt. 15c

**Dusty Miller**—*(Maritima Candidissima)*—Beautiful silvery-leaved border plant; half hardy perennial.

Pkt. 10c, 1/4 oz. 35c

**COIX LACHRYMAE**—*Job's Tears*—A broad-leaved, ornamental grass, having large, tear-shaped, hard, shining, pearl-gray seeds. Plant in prepared seed bed in open, transplant to permanent location when a few inches tall. 2 to 3 feet.

Pkt. 10c, oz. 25c



## Perennial Flower Seeds—Continued

**COLUMBINE**—*Aquilegia*—Universal favorite for hardy borders and beds. Colors, white, blue, yellow and orange. Seeds sown very early in boxes indoors will usually produce blooming plants the first season, or they may be sown in open about the first of July and the young plants lightly protected the first Winter. Height 2 to 3 feet.

**Coerulea Hybrid**—Blue shades with white. Pkt. 15c,  $\frac{1}{8}$  oz. 75c

**Chrysanthia**—Golden yellow. Pkt. 15c,  $\frac{1}{16}$  oz. 75c

**Chrysanthia**—*Grandiflora Alba*. Beautiful, pure white. Good for forcing. Pkt. 15c,  $\frac{1}{16}$  oz. 75c

**Skinneri**—Orange, red. Splendid cut flower variety. Pkt. 15c,  $\frac{1}{16}$  oz. 75c

**COREOPSIS**—*Lanceolata*—Large, showy, bright yellow flowers produced in great abundance from June until frost; fine for cut flowers. Sow seeds indoors very early, transplanting to open when soil is warm. Height 1 to 2 feet. Pkt. 10c,  $\frac{1}{4}$  oz. 25c

**DAISY**—*Bellis Perennis*—Popular low-growing plant bearing beautiful flowers. Hardy perennial. Sow seeds in boxes about August and transplant to cold frame or some location where they may be protected the first Winter. Plant in permanent location early in Spring. Height six inches.

**Longfellow**—Doublepink. Pkt. 10c,  $\frac{1}{16}$  oz. 40c

**Giant Double Monstrosa**—Red, white, pink or mixed. Pkt. 25c,  $\frac{1}{16}$  oz. 60c

**Double Quilled**—Dark red, Pkt. 25c,  $\frac{1}{16}$  oz. \$1.

**Shasta Alaska**—Very hardy; profuse bloomers; flowers very large and borne on long stems, single; petals pure glistening white, dark center. Pkt. 15c

**DAHLIA**—A magnificent, Fall-blooming tuberous-rooted plant. Sow seeds in boxes indoors very early, transplanting to open when danger from frost is past. Will bloom first season. Tubers of the best ones may be saved for following season. Height 3 to 6 feet. See Plant Department for Finest Named Dahlias.

**Double Mixed.** Pkt. 15c,  $\frac{1}{4}$  oz. 65c

**Single Mixed.** Pkt. 10c,  $\frac{1}{4}$  oz. 50c

**Cactus**—Flowers odd and fantastic in shape; all colors. **Finest Mixed.** Pkt. 15c,  $\frac{1}{8}$  oz. 50c

**DATURA**—Large, strong-growing plants, trumpet-shaped flowers, white, sometimes tinted with blue. Roots can be preserved like Dahlias. Sow seeds in sheltered bed in open and transplant when 2 to 3 inches high. Give plenty of room and rich soil. Height 2 to 3 feet.

**Fastuosa Huberiana**—Double mixed. Pkt. 10c, oz. \$1.00

**Cornucopia**—Very fragrant. Pkt. 10c, oz. \$1

**DIGITALIS**—*Fox Glove*—A tall growing biennial, with large leaves and spikes of varicolored and spotted flowers. Fine for borders or background. Sow seeds in prepared seed bed in May. Keep seedlings well watered and transplant to permanent location in July or August. Give rich soil and plenty of room. Height 3 to 6 feet.

**Gloxiniiflora**—Mixed. Pkt. 10c,  $\frac{1}{4}$  oz. 35c

**DELPHINIUM**—*Larkspur*—Profuse blooming plants, their tall spikes of many colored flowers produce a striking effect when planted in groups. Sow seeds in boxes indoors in early Spring, transplanting to other flats when second leaf appears. When soil is warm, set in open ground 6 to 8 inches apart, resetting the next Spring, giving rich soil and plenty of room. As a cut flower this is one of the best. Height 3 to 6 feet. See Plant Department for Finest Named Varieties.

**Chinese Azureum**—Blue; fine for cutting. Pkt. 10c,  $\frac{1}{4}$  oz. 50c

**Chinese Blue Butterfly**. Pkt. 10c,  $\frac{1}{4}$  oz. 50c

**Chinese Album White**. Pkt. 10c,  $\frac{1}{4}$  oz. 50c

**Belladonna**—Light blue. Pkt. 25c,  $\frac{1}{16}$  oz. \$1.75

**Formosum**—Dark blue. Pkt. 10c,  $\frac{1}{4}$  oz. \$1.00

**Cardinale**—Brilliant scarlet. Pkt. 15c,  $\frac{1}{8}$  oz. 75c

**FORGET-ME-NOT**—*Myosotis*—Beautiful Spring favorites of easy growth, bearing clusters of lovely, small blue flowers. They can be left in the open ground except in very cold latitudes. Fine for borders and shady situations. Sow seeds in box or prepared bed in the open. Transplant when two inches high. Height, one foot.

**Alpestris**—Of trailing habit, with pretty flowers blue or mixed. Pkt. 10c,  $\frac{1}{4}$  oz. 40c

**Victoria**—Flowers large, bright azure blue; fine for borders and pots. Pkt. 10c,  $\frac{1}{8}$  oz. 40c

**Semperflorens**—Dwarf; continuous bloomer; blue. Pkt. 15c,  $\frac{1}{8}$  oz. 65c

**GAILLARDIA**—*Blanket Flower*—Exceedingly beautiful, showy plants, one to two feet high. Grown in masses they are especially effective; large flowers, two or three inches across, unrivaled for cutting. Seeds sown very early and transplanted as soon as soil is warm will usually bloom in July. Colors range through crimson, orange and brown.

**Grandiflora Maxima**—Perennial. Mixed. Pkt. 10c,  $\frac{1}{4}$  oz. 25c

**GERANIUM**—A half-hardy perennial, easily and quickly grown from seed. Sow seeds thinly in boxes indoors, covering with glass until seedlings appear. When about one inch high transplant to small pots in rather poor soil firmly pressed down. Can later be re-potted in larger sizes or transferred to open garden. All colors. Height 1 to 2 feet.

**Zonale**—Extra choice, single mixed, the well-known bedding Geranium. Pkt. 15c

**Lady Washington**—(*Pelargonium*)—Foliage green; flowers large. Finest mixed. Pkt. 25c

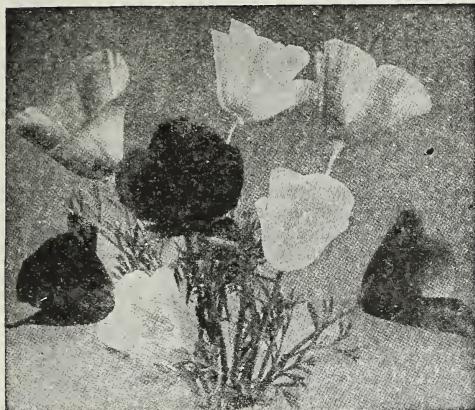
**GEUM**—*Chiloense*—Hardy, free-blooming plants. Fine for bouquets. Flowers crimson, double. Blooms all Summer. Height 8 to 12 inches. See Plant Department.

**Scarlet Semi-Double.** Pkt. 15c

**GYPSOPHILA**—*Baby's Breath*—A pretty, free-flowering plant. Fine for bouquets. Seeds very small. Sow in boxes indoors, covering lightly with sifted soil firmly pressed down. Transplant to open as soon as large enough to handle. Height 2 to 3 feet.

**Paniculata**—Foliage fine; covered with tiny pure white flowers. Hardy. Pkt. 10c,  $\frac{1}{4}$  oz. 25c

## Perennial Flower Seeds—Continued



*Eschscholtzia—California Poppy*

**ESCHSCHOLTZIA—California Poppy**

Beautiful and popular perennial, although often grown as an annual. They commence to bloom within a few weeks' time from Spring-sown seed and continue to flower profusely until late in the Autumn, forming nice, bushy plants 1 to  $1\frac{1}{2}$  feet high. Colors yellow, red, orange and white. Fine delicate foliage. Sow seeds either in Fall or Spring where plants are to remain. Seedlings are difficult to transplant. Thin to 12 inches.

**Single White or Mixed.** Pkt. 10c, oz. 30c

**Golden West**—Yellow with orange center—  
flowers large. Pkt. 10c, oz. 50c

**Carmine King.** Pkt. 10c, oz. 75c

**Mandarin**—Inner side of petals rich orange, outer side brilliant scarlet; very striking; single. Pkt. 10c, oz. 40c

(For other sorts see Poppies.)

**HOLLYHOCK, or Althaea**—The modern Hollyhock is a great improvement over the old type, the flowers being larger and richer colored. For backgrounds there can be nothing better. Hardy. Seeds should be sown in open from Spring to mid-Summer, transplanting to permanent location in late Fall. Give rich soil for best results. Five feet high.

**Chaters**—Superb strains. Double varieties; of greatest perfection.

**Scarlet, Rose, Newport Pink, Maroon, Yellow, White, Mixed.** Pkt. 10c,  $\frac{1}{4}$  oz. 75c

**KUDZU VINE**—*Pueraria Thunbergiana*—Beautiful Japan climber, hardy perennial with fragrant purplish-violet, wisteria-like flowers. Height 10 to 12 feet. Pkt. 10c

**LEMON VERBENA**—Every garden should have a few plants of this fragrant favorite. Its pale green foliage goes well with any flower. Height 1 to 2 feet. (Usually propagated from cuttings, seldom from seed.) Pkt. 15c

**LINUM—Crimson Flax**—Effective and showy bedding plants having fine foliage and delicate stems. Flowers brilliant crimson. Sow seeds where wanted and thin to 6 inches. Height 1 to 2 feet.

**Grandiflorum Rubrum.** Pkt. 10c, oz. 35c

**LOBELIA—Cardinalis**—Flowers rich red, dark green foliage. Especially valuable for border decoration. Sow seeds in boxes indoors. Cover very lightly with sifted soil and press down firmly. Cover box with glass until seedlings appear. If sown in January or February, will usually bloom in May. Height 6 to 12 inches.

Pkt. 15c,  $\frac{1}{8}$  oz. 75c

**LUPINUS**—Shrubby plants, bearing long spikes of flowers. Colors white and pink, occasionally blue. Sow seeds in open early in Spring. Transplant when 2 to 3 inches high. Give plenty of room. Height 1 to 2 feet.

**Perennial—Mixed.** Pkt. 10c, oz. 35c

**LYCHNIS—Rose Champion—Jerusalem Cross**—Few plants produce more brilliantly colored blossoms. Flowers are borne in clusters and continue fresh and brilliant for a long time. Hardy, 1 to 2 feet high. Orange, scarlet and crimson. Seeds should be sown where plants are to remain, thinning to prevent crowding.

**Haageana Hybrida—Mixed.**

Pkt. 15c,  $\frac{1}{8}$  oz. 35c

**MIMULUS—Moschatus or Musk Plant**—Cultivated for its rich musky odor. Flowers yellow, white or spotted. Height 1 foot. Should have a rich soil and ample moisture. Will bloom first year if seed is sown early. Does best in shady situation.

Pkt. 15c,  $\frac{1}{8}$  oz. \$1.00

**Tigrinus Nanus, or Monkey Flower**—Beautifully spotted. Mixed, all colors.

Pkt. 15c,  $\frac{1}{8}$  oz. \$1.00

**PAMPAS GRASS—Cortaderia Argenteum**—A noble ornamental grass, easily grown from seed; producing majestic plumes that are invaluable for winter decorations. Height 6 to 10 feet. Sow seeds thinly in a sheltered place, transplanting to another prepared bed when a few inches high. Set out in permanent location when about 1 year old. See Plant Dept.

Pkt. 10c

**PENTSTEMON—Beard Tongue**—Brilliant bell-shaped flowers borne on long spikes, and produced abundantly all Summer. Colors range through red, rose, cherry, carmine, pink and purple. Should be sown indoors. Cover lightly and press down firmly. Transplant to open. Mixed.

Pkt. 10c,  $\frac{1}{4}$  oz. 75c

**PEAS—Perennial—Lathyrus Latifolius**—Similar to Sweet Peas but, not so fragrant: they bloom through a long season, are perfectly hardy, and will live for years. Should be sown near a fence or other support, thinning to 2 to 3 feet apart. Height 4 to 6 feet.

Mixed.

Pkt. 15c, oz. 90c

**PHLOX DECUSSATA—Perennial**—Large compact heads of bloom from mid-Summer until Fall. Height 2 to 4 feet. Wide range of colors. Sow seeds early in boxes and transplant seedlings once before placing in permanent location. Usually blooms the first season. See Plant Department for finest named varieties.

Mixed. Pkt. 10c,  $\frac{1}{8}$  oz. 50c



## Perennial Flower Seeds—Continued

### PASSIFLORA—*Passion Flower*

Most interesting and well known climber, bearing singularly beautiful flowers. Height 10 to 12 feet. **Blue.** **Pkt. 10c, 1/4 oz. \$1.00**

**PINKS**—The Dianthus family embraces some of the finest of all flowering plants. The blooms are of the richest and most pleasing colors, and nothing can surpass the exquisite fragrance of some varieties. They are hardy, and become perennial in warm climates. Sow seeds in boxes indoors and plant out in good soil when 1 to 2 inches high.

**Chinensis**—Single mixed. **Pkt. 10c, 1/4 oz. 15c**

**Chinensis**—Double mixed. **Pkt. 10c, 1/4 oz. 25c**

**Heddewigii**—Single mixed. Color varies from richest velvety crimson to delicate rose.

**Pkt. 10c, 1/4 oz. 30c**

**Heddewigii**—Double mixed, Large flowering; splendid.

**Pkt. 10c, 1/4 oz. 50c**

**Heddewigii Diadematus Fireball**—Extra double brilliant dark scarlet. Very beautiful.

**Pkt. 10c, 1/4 oz. 50c**

**Heddewigii Laciniatus Snowball**—Double white.

**Pkt. 10c, 1/4 oz. 50c**

**Heddewigii Laciniatus**—Fine single fringed, finest assorted colors.

**Pkt. 10c, 1/4 oz. 50c**

**POPPIES**—Seeds should be planted in small pots and thinned to one plant in each pot, as they are difficult to transplant. When pot is full of roots, plant in permanent location in good soil. Height 1 to 3 feet.

**Bracteatum**—Hardy perennial; very showy, red.

**Pkt. 10c, 1/4 oz. 40c**

**Iceland, or Nudicaule**—Bright green, fernlike foliage, formed in tufts from which issue slender stalks about 12 inches high, bearing yellow, white or orange-scarlet flowers in endless profusion and most useful for cutting. Mixed colors.

**Pkt. 10c, 1/4 oz. 40c**

**Oriental**—*Hybrida* mixed. Very hardy and early flowering.

**Pkt. 10c, 1/4 oz. 50c**

**PYRETHRUM**—Very ornamental plants, for both foliage and flowers. Seeds should be sown very early in boxes. Cover very lightly with sifted soil and press down firmly. Transplant to permanent location as soon as large enough to handle. If flowers are allowed to form, foliage will change from yellow to green. Height 1 to 2 feet.

**Parthenium Aureum, or Golden Feather.** Gold leaved, flower white. **Pkt. 10c, 1/4 oz. 25c**

**RUDBECKIA**—*Golden Glow*—*Newmani*—Brilliant orange yellow petals around a large dark center. Useful for borders or as a single group. Sow seeds in a sheltered location and transplant when a few inches high. Height 4 to 6 feet.

**Pkt. 15c**

**Fulgida**—Orange yellow; perennial.

**Pkt. 15c**

**SNAPDRAGON**—See *Antirrhinum*

**STATICE**—*Sea Lavender*—Splendid for border or rockery, producing panicles of minute flowers, can be dried and used for Winter bouquets. Sow where plants are to remain and thin to 6 to 12 inches. Height 1 to 1½ feet.

**Blue.** **Pkt. 10c**

**SWEET ROCKET**—*Hesperis*—An old, hardy garden favorite. Fragrant white flowers, 2 to 3 feet high, resembling Perennial Phlox. Sow seeds early and transplant once before placing in permanent location.

**Pkt. 10c, 1/4 oz. 15c**

**Sweet Sultan**—See *Centaurea*

**SWEET WILLIAM**—*Dianthus Barbatus*—

Remarkably free-flowering plant of brilliant colors, ranging from snow white to darkest crimson and purple, and emitting a very delicate and refreshing fragrance. May be sown in open and thinned to 6 to 8 inches. Height 1 to 1½ feet.

**Single Mixed**—Very beautiful.

**Pkt. 10c, 1/2 oz. 50c**

**Dunnettii**—Dark crimson, single.

**Pkt. 10c, 1/2 oz. 60c**

**Pure White**—Single.

**Pkt. 10c, 1/2 oz. 75c**

**Double Mixed.**

**Pkt. 10c, 1/2 oz. 75c**

**TRITOMA**—*Red Hot Poker*—Bright, showy flowers produced in large spikes of brilliant rich colors. Although hardy, requires some protection through the Winter. Will bloom first season from seeds sown indoors very early and planted out as soon as soil is warm. Cut flowers keep a long time. Height 2 to 3 feet.

**Uvaria**—Dazzling orange red.

**Pkt. 15c, 1/2 oz. 75c**

**VALERIANA**—*Garden Heliotrope*—Sweet scented flowers having red or white blooms produced in large heads. Fine border plants, 2 to 3 feet high. Sow seeds early in boxes and transplant to permanent location as soon as large enough to handle. Should have rich soil.

**Red.** **Pkt. 10c, 1/4 oz. 35c**

**VINCA**—*Old Maid*—Tender perennial. Fine for pot culture. Flowers white and pink.

**Mixed.** **Pkt. 10c, 1/4 oz. 50c**

**VIOLET**—*Violet Odorata* is the well-known English Violet, a free-flowering, hardy perennial. Easily grown from seed though somewhat slow in germinating, succeeds best in partially shaded moist places.

**Blue**—Very fragrant. **Pkt. 10c, 1/8 oz. 50c**

**The Czar**—Finest forcing Violet. Very large. Dark blue.

**Pkt. 15c**

**WALL FLOWER**—*Cheiranthus Cheri*—Produces spikes of beautiful, exceedingly fragrant flowers. Colors yellow, red, orange and brown. Half hardy perennials. Sow seeds in open and transplant to permanent location late in Summer. Should bloom second season. Height 1 to 1½ ft.

**Goliath**—Single, extra large; fine dark brown, very early; fine for forcing... **Pkt. 10c, 1/4 oz. 50**

**Mixed, Single**—Large flowering.

**Pkt. 10c, 1/4 oz. 25c**

**Finest Tall Double Mixed**—Branching

**Pkt. 10c, 1/8 oz. 75c**

## FLOWER SEEDS—GREENHOUSE CULTURE

**ASPARAGUS SPRENGERI**—*Emerald Feather*—One of the best of the new so-called ferns. Feathered foliage; useful for bouquets, wreaths or sprays, remaining perfect for weeks after cutting. Seeds should be sown under glass with night temperature of about 65 degrees. Will germinate in 4 to 6 weeks. Height 2 to 4 feet. (For Plants see plant Department.)

Pkt. 10c, 50 seeds 25c

**ASPARAGUS PLUMOSUS**—*Asparagus Fern*—One of the prettiest house plants. The leaves are bright green, gracefully arched, surpassing Maidenhair Ferns in grace, delicacy of texture and richness of color. Culture same as Sprengeri. Height 6 to 12 feet. (For plants see Plant Department.)

Pkt. 25c, 50 seeds 50c

**BEGONIA**—Begonias are among the most beautiful of flowering plants, especially adapted to pot culture. They are difficult to grow from seeds even in a greenhouse. Generally propagated by cuttings. (See Plant Department.)

**Gracilis**—Pink, White, Bonfire, Luminosa.

Pkt. 25c

**Salmon Queen**.

Pkt. 25c

**CALCEOLARIA**—Beautiful flowers of unique form and colors, ranging from red, yellow, brown and orange. Fine for pot culture. Seeds should be sown in flats very thinly, covering lightly with sifted soil firmly pressed down. As soon as large enough to handle, seedlings should be transplanted to thumb pots, shifting from size to size as they become potbound. Of little value outdoors as the hot sun ruins the blooms.

**Hybrida**—Finest mixed.

Pkt. 50c

**CANNA**—*Indian Shot*—Large, ornamental, tropical looking plants of easy culture. Soak seeds in warm water for several hours, or until they commence to swell, then plant under glass. When second leaf appears transplant into pots and keep under glass until soil outside is warm. Colors red and yellow. Height 2 to 6 feet. (For Canna Bulbs see Plant Department.)

**Crozy's Dwarf Mixed**.

Pkt. 10c, oz. 50c

**COLEUS**—Probably the best known and most popular of ornamental foliage plants. Leaves of all shades and colors. Tender perennial. Sow seeds in flats indoors. Tender Leaves of all shades and colors. Tender perennial. Sow seeds in flats indoors. Transplant seedlings to other flats until settled warm weather, when they may be transplanted to open garden. Should be potted for house culture before frost. Height 1 to 2 feet.

**Extra Choice Mixed**.

Pkt. 25c

**CYCLAMEN**—Florists' pot plant. Beautiful Winter and Spring flowering plants for the window and greenhouse. Special cultural instructions on request.

**Giganteum Hybridum**—White with carmine eye, dark red, salmon-pink, light rose. Pkt. 25c

**DRACAENA**—Ornamental greenhouse plant. Very desirable.

**Indivisa Lineata**—Narrow, dark foliage.

Pkt. 10c,  $\frac{1}{4}$  oz. 30c

**GREVILLEA ROBUSTA**—*Silk Oak*. Very beautiful and graceful foliage plant with fern-like foliage—a splendid pot plant. Sow seeds in boxes in late Winter or early Spring, potting the seedlings when 2 to 3 inches tall. Re-pot frequently to maintain rapid growth. Height 2 to 4 feet.

Pkt. 10c, oz. \$1.00

**HELIOTROPE**—Flowers in large clusters of lovely shades of blue. Delightfully fragrant and free-blooming. Splendid for bedding, pot culture or bouquets. Start under glass very early in Spring, transplanting to pots or open garden. Will bloom in 2 to 3 months.

**Finest Select Mixed** Pkt. 10c,  $\frac{1}{8}$  oz. 50c  
**Choice Mixed** Pkt. 10c,  $\frac{1}{8}$  oz. 40c

**LANTANA**—A free-flowering shrubby plant, suitable for out-door or pot culture. The flowers emit an agreeable odor and are of many shades of purple, orange and white. Half-hardy perennial. Sow seeds thinly in boxes indoors, covering very lightly. Transplant to garden when 2 to 3 inches high. Height 1 to 2 feet.

**Hybrida Fine Mixed**.

Pkt. 10c,  $\frac{1}{4}$  oz. 35c

**PRIMULA**—*Primrose*—The first three varieties named below are hardy, early blooming garden plants, and the others beautiful winter-blooming house plants. Soak seeds in warm water for 24 hours, then sow thinly in shallow boxes of soft sandy soil, covering lightly with sand. Press down firmly and cover with glass until through the surface. When large enough to handle transfer into other boxes of fine soil. Remove to permanent location when about 2 inches high.

**Polyanthus**—Early blooming, dwarf growing plants. Valuable for outdoor bedding. Mixed colors.

Pkt. 10c,  $\frac{1}{8}$  oz. \$1.00

**Vulgaris**—Yellow, common, English Primrose.

Pkt. 15c,  $\frac{1}{4}$  oz. \$1.00

**Japonica**, or *Japanese Primrose*—The beautiful, large, various colored flowers stand in whorls, pyramidically arranged on short flower stems one foot high: though perennial, new plants flower more freely, and seeds should be sown every year. Mixed varieties.

Pkt. 15c,  $\frac{1}{8}$  oz. 75c

**Sinensis**, or *Chinese Primrose*—The beautiful, large fringed flowers stand in pyramids arranged on short flower stems. Blossoms of every shade of color, from pure white to deep crimson, and even deep blue: especially fine for Winter and Spring flowers in the house: Finest mixed.

Pkt. 25c,  $\frac{1}{32}$  oz. \$2.00

**Sinensis**—Double finest mixed.

Pkt. 50c

**Obconica Grandiflora**—Beautiful single flowers. This is really an ever-blooming plant, producing elegant clusters of flowers continuously throughout the year. Fine mixed.

Pkt. 15c,  $\frac{1}{16}$  oz. \$2.00

**SMILAX**—*Medeola Asperagooides*—Charming, tender, perennial climber for greenhouse or window gardens. The foliage and stems are of pleasing light green: excellent for decoration. If grown from seeds, should be treated same as Asparagus Sprengeri. (See Plants.)

Pkt. 10c,  $\frac{1}{4}$  oz. 35c



# CLASSIFICATION OF FLOWERS

This will enable you to tell at a glance what flowers are suitable for any position

## Annual Bedding Plants or Tall Border Plants 1 to 2 feet

Ageratum, Tall	blue, white or mixed
Asters	various colors
Balsam	various colors
Brachycome	blue, white, rose
Browallia	blue and white
Calendula	mixed
Candytuft	various colors
Celosia	crimson
Centurea	yellow, rose
Chrysanthemum	yellow, white, gold
Clarkia	pink, scarlet
Eschscholtzia (California poppy)	crimson, white, yellow
Four O'Clock	various colors
Gaillardia	orange, scarlet
Gilia	white, lilac rose
Godetia	variegated rose and white
Gypsophila (for bouquets)	white
Linum (scarlet flax)	scarlet
Marigold	yellow, red, brown and variegated
Mignonette	white, yellow, red
Nasturtium, dwarf	various colors
Nigella (Love in a mist)	white
Petunia	various colors
Poppy	various colors
Phlox	various colors
Scabiosa	white, lilac, carmine and maroon
Schizanthus	various colors
Salvia	scarlet
Stocks (10 weeks)	all colors
Viscaria	various colors
Zinnia	various colors

## Everlasting Flowers

Acroclinium	all colors
Globe Amaranth, Gomphrena	various colors
Helichrysum	various shades
Rhodanthem.	pink, white
Statice	white, blue and yellow

## Tall Growing Plants for Grouping—Annual From 2½ feet up

Amaranthus	scarlet
Calliopsis	yellow, brown, maroon
Castor Bean	white, red, pink
Cosmos	white, red, pink
Euphorbia	white
Kochia	various colors
Larkspur	white
Nicotiana	white
Rudbeckia	yellow
Salpiglossis	various colors
Scabiosa Grandiflora	all colors
Sunflower	yellow

## Low Edging Plants—Annual

Ageratum Dwarf	blue, white or mixed
Alyssum	white
Bulbs	all colors
Calliopsis, Tiger Star	reddish brown
Candytuft	various colors
Celosia, Dwarf	white
Centaurea, Dusty Miller	various colors
Dianthus	various colors
Lobelia Compacta	blue
Mignonette	white, yellow, red
Nemophila	blue
Pansy	all colors
Portulaca	yellow, pink, white, scarlet
Verbena	various colors

## Climbing Vines—Annual

Balloon Vine	white
Scarlet Runner Bean	scarlet
Canary Bird Vine	yellow
Cypress Vine	white
Gourds	white
Moonflower	white
Morning Glory	white
Nasturtium, Tall	various colors
Sweet Peas	all colors
Wild Cucumber	white

## Bedding Plants—Perennial—1 to 2 feet high

Agrostema	pink
Aster	various colors
Begonia	various colors
Calceolaria	various shades and colors
Calla	all colors
Candytuft	yellow, white, red, pink and variegated
Cineraria	various colors
Coleus	various colors
Columbine	yellow, violet, rose
Daisy (Shasta)	white
Gaillardia	yellow, orange, scarlet
Geum	scarlet
Linum	various colors
Lynchnis	scarlet
Pentstemon	various colors
Salvia	scarlet
Statice	white, blue, yellow
Stocks (perpetual)	all colors
Sweet William	various colors
Tritoma	orange, red
Vinca	white, rose
Wallflower	various colors

## Low Edging Plants—Perennial, 6 to 12 inches high

Alyssum Saxatile	yellow
Anemone	various colors
Pinks	various colors
Daisy, English	various colors
Edelweiss	various colors
Forget-me-not	blue
Oxalis	yellow, pink, lavender, white
Poppy, Iceland	white, orange, yellow
Primula	various colors
Pyrethrum	various colors
Viola	yellow, white and blue

## Tall Growing Shrub Plants—Perennial

### For Grouping from 2½ feet up

Abutilon	various colors
Anchusa	various colors
Aster	various colors
Canna	various colors
Canterbury Bells	various colors
Chrysanthemum	various colors
Columbine	yellow, violet, rose
Dahlia	all colors
Delphinium	various colors
Digitalis	various colors
Fuchsia	scarlet, white, pink
Geranium	various colors
Gladiolus	yellow
Goldenrod	various colors
Hollyhock	various colors
Lantana	red, white, yellow
Lavender	various colors
Lobelia Cardinalis	scarlet
Lupin	shades of blue
Poppy, Oriental	various colors
Phlox, Perennial	various colors
Scabiosa	various colors
Snapdragon, Tall	various colors
Wallflower	various colors

## Climbing Vines—Perennial

Ampelopsis, Boston Ivy and Virginia Creeper	white, lavender, red
Clematis	various colors
Cobea Scandens	violet

## Kudzu Vine

## For Rockeries, Hanging Baskets or Window Boxes

Asparagus Fern	various colors
Edelweiss	blue
Forget-me-not	various colors
Ice Plant	blue
Lobelia Trailing	various colors
Mimulus	yellow
Nasturtium	various colors
Oxalis	yellow, white, pink, lavender
Portulaca	buff, orange and white
Thunbergia	various colors
Verbena	various colors
Petunia	various colors

 PLANTS FOR IMMEDIATE EFFECTS SUPPLIED IN SEASON—SEE PLANT DEPT.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

1921

# Autumn Catalog

OUR 1921 AUTUMN CATALOG contains a complete list of ROSES, PEONIES, SHRUBBERY, EVERGREENS, CLIMBING VINES, PERENNIAL PLANTS for Bedding, NURSERY STOCK, etc.

On request we will be pleased to mail this to you, if you are interested.

NOTE.—The BULBS listed in our AUTUMN CATALOG are liable to be exhausted by the time that this reaches you, and should you desire to order any of them, it is understood that it will be subject to our having the stock, for should we be sold out it will be impossible to secure them before next Fall.

DAHLIAS, CANNAS, GLADIOLI, GERANIUMS, CARNATIONS, CHRYSANTHEMUMS and other Miscellaneous plants will be found listed herein (1922 Seed Annual).

NOTE.—Below find Price List of ROSES; where prices are not quoted indicates that the stock is exhausted or so low that it is liable to be out soon. For complete description see AUTUMN Catalog.

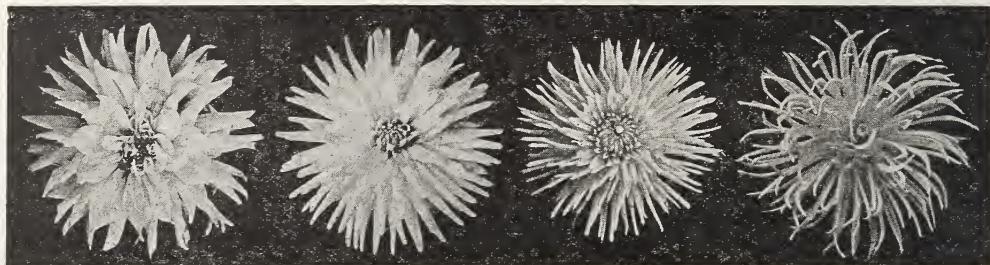
## ALPHABETICAL LIST OF ROSES

	Price 2 Yr. 1 Yr.		Price 2 Yr. 1 Yr.		Price 2 Yr. 1 Yr.	
Admiral Ward.....	\$0.85		Hoosier Beauty.....	\$1.00 .50	Mrs. Alfred Tate.....	\$1.00
American Beauty.....	.60	\$0.30	Hugh Dickson.....	.75 .40	Mrs. Charles Russell.....	1.00 \$0.50
Augustus Hartmann.....	1.00		H. V. Machin.....	.85	Mrs. John Laing.....	.75 .40
Austrian Copper.....	.60		Irish Elegance.....	.75	Old Gold.....	
Baby Rambler.....	.75	.40	Irish Fireflame.....	.75	Ophelia.....	1.00 .50
Baroness Rothschild.....	.60		J. B. Clark.....	.75	Papa Gontier.....	.85 .45
Bessie Brown.....		.30	Jonkheer J. L. Mock.....	.75 .40	Paul Neyron.....	.75 .40
Betty.....	.85	.45	Joseph Hill.....	.75	Perle D'Or.....	.75 .40
British Queen.....	.85		Juliet.....	.75	Perle von Godesburg.....	1.00 .50
Cecile Brunner.....	.75	.40	Kaiserin Aug. Victoria.....	.75 .40	Pink Baby Rambler.....	.75 .40
Chat. Des Clos Vougeat.....	.75		Killarney Brilliant.....	1.00 .50	Pink Cherokee.....	.75
Cleveland.....	1.25		Lady Alice Stanley.....	.85	Pink Killarney.....	.85 .45
Columbia.....	1.50	.75	Lady Ashtown.....	.85 .45	President W. R. Smith.....	.85 .45
Conrad F. Meyer.....	.60	.35	Lady Battersea.....	.45	Prince Camille DeRohan.....	.75 .40
Constance.....	1.25		Lady Hillingdon.....	1.25 .60	Radiance Red.....	1.25 .50
Countess Clanwilliam.....	1.25		Lady Roberts.....	.85 .45	Rainbow Improved.....	.85
Crimson Emblem.....	1.00		La France.....	.75 .40	Rayon D'Or.....	1.00
Dean Hole.....	.75	.40	Lillian Moore.....	1.00	Red Cross.....	2.50
Dorothy Page Roberts.....	.75		Los Angeles.....	1.50	Red Dorothy Perkins.....	.75 .40
Dorothy Perkins.....	.75	.40	Louise Catherine Breslau.....	1.00	Red Letter Day.....	1.00 .50
Duchess of Wellington.....	1.00	.50	Lyon.....	.75	Reve D'Or.....	.75 .40
Edward Mawley.....	.86	.45	Mad. Melanie Soupert.....	1.00	Rhea Reid.....	.85 .45
Etoile de France.....	.75	.40	Mad. Ravary.....	1.00	Richmond.....	.75
Florence Pemberton.....	.75	.40	Mad. Abel Chatenay.....		Soleil D'Or.....	.75
Flower of Fairfield.....	.75	.40	Mad. Caroline Testout.....	.60 .30	Souv. De Pres. Carnot.....	.75 .40
Franz Deegan.....	1.00	.40	Mad. Edouard Herriott.....	1.00	Souv. De Stella Gray.....	1.00
Frau Karl Druschk.....	.75	.40	Maman Cochet.....		Sunburst.....	.50
General Jacqueminot.....	.60	.30	Marechal Neil.....	1.00 .50	Sunset.....	.85
General McArthur.....	.75	.40	Margaret Dickson.....	.75	Tausendschon.....	.75 .40
George Dickson.....	.75	.40	Marg. Dickson Hamill.....	1.00	Tipperary.....	1.25 .60
Gloire De Dijon.....	.75		Marquis De Siney.....	1.00	Ulrich Brunner.....	.60 .30
Gorgeous.....	1.25	.60	Melody.....	1.00	Viscountess Folkstone.....	.75 .40
Grus An Teplitz.....	.75	.40	Moss Roses.....	.60	White Maman Cochet.....	.40
Harry Kirk.....	.85		Mildred Grant.....	.86	Winnie Davis.....	.75 .40
Helen Gould.....	.60		Mrs. Aaron Ward.....	1.00 .50		

The following five ROSES added to our AUTUMN CATALOG list, in two year old plants only:  
**HELEN GOULD**—Rosy Crimson, 60c. **HENRIETTA**—Coral Orange, \$1.50. **MISS WILMOTT**—Soft Sulphur Orange, \$1.50. **MRS. A. R. WADDELL**—75c. **RED CROSS**—Orange Crimson. **Scarlet**, \$2.50.



# DAHLIAS



**IN THE SELECTION OF DAHLIAS** only those varieties of known merit should be considered. The great Dahlia Specialists of Europe and America have set a high standard, established by their years of comparative trials and you will have greater satisfaction and better values from their tested varieties which we offer, and which have been officially recognized, than you can possibly obtain from untried varieties of doubtful origin.

**OUR TRIALS ARE VERY EXTENSIVE** and are conducted by a practical Dahlia expert of wide experience. All tests are made in the field without irrigation and the Dahlias we list represent the "survival of the fittest," the best of the standard varieties and meritorious novelties of the most famous producers, varieties that are recognized the world over. They are true to name, erect bloomers and good keepers.

**IT IS IMPORTANT** that your Dahlias be recognized varieties and **true to name**. If not, you cannot hope to exhibit them successfully.

## CULTURE

**DAHLIAS** will grow to perfection in any good garden soil, preferably one that contains a little sand. Plant as soon as the frost is gone and the ground warm, cutting the tuber to a single strong eye, and placing it on its side at a depth of about 6 inches, in ground that has been previously well cultivated. An excellent way to start Dahlias is to sprout the tubers in a green house and set out the rooted plants. These are generally believed to give more and better flowers, but is more trouble than planting the bulbs. Rows should be 4 feet apart, plants 18 inches to 3 feet apart in the row, depending on whether planted for a hedge or for specimen plants. Cultivate thoroughly until ready to bloom, then deep tillage must cease and only the surface be lightly stirred, as deep cultivation at this time is fatal to blooming. Tall varieties should be staked.

If you use commercial fertilizer, do not apply until the plant starts growth, then work it into the top soil, 5 or 6 inches from the plant. Bone meal is an excellent fertilizer for Dahlias but must be applied early, as it is slow in action. When the plant is well up, say 6 to 10 inches, pinch off the top, leaving 2 or 3 joints. This will cause it to branch out into a more sturdy, bushy growth. Water freely.

## FINEST CACTUS DAHLIAS

From comparative tests in the field we have selected the following as being the best of their types and color. This list contains many of the newest Dahlias as well as the best of the older ones.

**Prices** 25c DAHLIAS \$2.50 doz.; 40c DAHLIAS \$4.00 doz.  
35c DAHLIAS \$3.00 doz.; 50c DAHLIAS \$5.00 doz.

Prices F. O. B. Portland; if mailed, postage extra.

### RED AND SHADES

**OLYMPIA**—Extra large deep-crimson flowers. Petals very much incurved. Valuable for exhibition. **Each 75c**

**NORMAN**—New. Bright orange red. Very large flowers; extra fine for exhibition. Dwarf grower. **Each 75c**

**KALIF**—A giant flower, color a brilliant pure scarlet. The immense blooms are freely borne on long, strong stems and make a wonderful display. **Each 60c**

**MRS. FERDINAND JEFFRIES**—Immense deep velvety garnet red flowers. **Each 50c**

**MRS. SEARLE**—Variegated; tips of petals white, shaded blackish red throughout. **Each 35c**

### YELLOW AND SHADES

**CORONET** (Stredwick)—A beautiful flower, color bright deep orange, but near the base this lightens to yellow. The plants are of good habit, flowers deep and stems of average length **Each 75c**

**GOLDEN WEST**—California Dahlia of great beauty. Free blooming, on long stems. Color Golden Yellow. **Each 50c**

**DR. ROY APPLETON**—The finest of the straight petal type; a beautiful light lemon yellow, merging to light salmon. **Each 35c**

**EDITH CARTER**—Yellow, heavily tipped with bright carmine. Very erect habit and stems A brilliant showy flower admired by everyone. **Each 50c**

**F. W. FELLOWS**—One of the largest Cactus Dahlias, blooms freely on long stems. Orange with narrow straight petals. **Each 50c**



## CACTUS DAHLIAS—Continued

### YELLOW

**GOLDEN CROWN**—A beautiful large incurved golden yellow; a strong grower, producing flowers freely. **Each 50c**

**HOFFNUNG**—A beautiful chamois-rose with light yellow at the base of the long, incurved petals. Wonderful free flowering giant hybrid cactus of great merit. **Each 50c**

**MELODY**—Clear yellow, heavily tipped white; large, incurved flower with good stems. A free bloomer and best of its color **Each 75c**

**YELLOW KING**—Deep sulphur-yellow. **Each 35c**

### LAVENDER

**INDOMITABLE**—Long, narrow petals, perfectly incurved; color rosy mauve. **Each 50c**

**MAUVE QUEEN**—A beautiful true lavender with lighter center, petals incurved **Each 35c**

**PATRICIA** (Oregon Hybrid Cactus)—While not large, this flower of white shaded lavender has a great future as a cut flower, not only on account of its good keeping qualities and grand stem but for its dainty coloring. **Each 75c**

### WHITE

**CAPTAIN SCOTT** (English Cactus)—A very free flowering white with long petals. Good stems and constant bloomer throughout season. **Each 50c**

## DECORATIVE DAHLIAS

**AVALANCHE**—Pure white, large full flowers of free flowering habit. **Each 50c**

**BALLON**—A very odd shade of bronzy apricot, suffused with gold; quite distinct. **Each 35c**

**CARMELLO**—Light cherry red, shaded orange; variegated foliage; very free. **Each 35c**

**CHALLENGER** (English Decorative)—The florets are broad and flat at base, but partly twisted cactus fashion at points. Color deep salmon overlaying yellow, but a peculiarly pretty rosy tint at tips adds to the beauty of the whole. Two first-class awards. **Each 50c**

**DELICE**—Lovely shade of pink, broad petaled flowers. **Each 35c**

**DR. HENRY SEWELL**—Combination of pinkish-fawn and golden-amber shades. Blooms large and handsome. Very early. **Each 50c**

**DUFFREN**—New English variety of a pure, snow white, of most perfect form; long, wiry stems; free. **Each 50c**

**GARIBALDI** (Holland Decorative)—One of the best from Holland. A very full and very large flower with very fluffy petals on a good stem. Color is a bright scarlet. Particularly attractive. **Each 60c**

**HORTULANUS WITTE**—Very long stemmed. Pure glistening white. **Each 75c**

**LATONA**—Fine large flower of pretty pale yellow tinged buff and lavender. Freely produced on the stoutest, erect stems. This new Holland creation is sure to be in great demand very soon. **Each 75c**

**MABEL**—Beautiful, delicate shade of mauve. Finest upright habit, flowering very freely and with extra fine stems. One of the best and most popular cut flowers. **Each 35c**

**MRS. DOUG. FLEMING**—Without doubt one of the best whites. Very narrow, incurved florets, and so numerous as to make monster flowers. Extra free and constant; erect stem. **Each 50c**

**MRS. WARNAAR**—New Hybrid Cactus, creamy white, tinted delicate pink; one of the best to date. **Each 60c**

### PINK AND SHADES

**GEO. WALTERS**—One of the largest and best varieties to date. Salmon pink with gold suffusion in the center. Wonderful bloomer, with long, stout stems. A leader and always in great demand. **Each 75c**

**MARGARET BOUCHON**—A large brilliant, yet soft rose pink with white center and tips; one of the finest of all. **Each 50c**

**MONS**—A beautiful, new rose pink. Erect grower and very reliable. **Each 50c**

**PIERROT**—Lovely, deep amber, usually boldly tipped white. Flowers are of immense size, very double and produced freely. One of the best. **Each 50c**

**SWEET BRIAR**—Strong stems carrying a splendid flower of an exquisite shade of pink. A free and continuous bloomer. **Each 50c**

**SALMON ROSE**—Petals broad and curled, light salmon rose, with gold center. **Each 35c**

### DECORATIVE DAHLIAS

**MASTERPIECE** (a Colorado Decorative)—A gigantic flower on very long strong stems. Color is a clear, rich tango. **Each 35c**

**MEADOW GOLD**—Large primrose yellow, tinted light pink; very free on fine stems. **Each 35c**

**MINNIE BIRGLE**—Bright rich red. **Each 35c**

**MAMMOTH**—Extra large flowers of soft scarlet; good bloomer. **Each 35c**

**MRS. ALEXANDER**—Very beautiful; old rose shade. **Each 35c**

**MONT BLANC**—Decorative; very grand flower; one of the best whites. **Each 50c**

**POLAR STAR**—The purest white Dahlia of remarkable beauty. Flower is large and full and carried on 18-inch stems. **Each \$1.00**

**OBAN**—Mauve, shaded to fawn. **Each 25c**

**PAUL BONYON**—Beautiful salmon orange flower freely produced on long upright stems; extra large and fine. **Each 50c**

**New—PRINCESS MARY** (Holland Paeony)—Vivid light pink, margined blush. Very showy. Carries a mass of flowers on strong stems. **Each \$1.00**

**PRINCESS JULIANA**—Pure white, of perfect form; foliage is rich dark green. **Each 50c**

**QUEEN WILHELMINA**—Large, pure white, central petals beautifully twisted and curled; very vigorous and free flowering; one of the finest garden Dahlias. **Each 35c**

**SOUVENIR DE GUSTAVE DOAZON**—Magnificent rich scarlet, often growing 9 inches in diameter; constant bloomer. **Each 35c**

**WYVERN** (English Decorative)—This is an entirely new type of decorative but none the less striking and even more massive in appearance than the pointed petaled varieties. **Each 50c**



## PAEONY FLOWERED DAHLIAS

**AUTUMN GOLD**—Blending of bronze and buff. Large size; very free on good stems.

Each 35c

**BASKERVILLE**—Paeony with hybrid caetus petals. Color a beautiful coral; large flower on good stem. An exceptionally satisfactory flower.

Each 50c

**CHAMELIAN**—A deep ruby red, variably shaded purple and cerise; fine.

Each 50c

**New—DOMINO** (English Paeony)—Crimson shaded maroon. Large irregularly shaped flowers on good stems.

Each \$1.00

**DR. H. H. RUSBY**—Immense yellow, shading to primrose tips; profuse bloomer.

Each 35c

**FUGI**—Large white with lemon base. Very attractive of distinct form, held erect on fine stems. Blooms profusely.

Each 35c

**GEISHA**—Golden yellow, changing to red and again to yellow tips. A sure bloomer and most popular. 8 to 10 inches across.

Each 50c

**HELEN LADD CORBETT**—Beautiful, soft pinkish lavender of large size and perfect form. Long stems and very constant bloomer.

Each 35c

**KAKADEE**—The Wonder from Scotland—Hybrid-paeony dahlia of the greatest merit. The color is a most beautiful lemon yellow, changing to almost white at the tips. A large attractive flower on very stout, erect stems. Plants are dwarf, needing no staking, tying, etc. One of the first to bloom and one of the last. A very lasting cut flower. By far one of the best dahlias we ever grew.

Each 50c

**KLONDYKE**—A beautiful orange buff; very long, erect stem; ideal, upright habit and free bloomer. One of the finest for cutting.

Each 35c

**LIBERTY**—A most magnificent, new shade of salmon-scarlet. English novelty of enormous size, produced freely and erect on long stems. By far one of the best for any purpose we have ever grown.

Each 50c

**LAURA** (English Paeony)—Pale silvery rose. Very large flowers with broad twisted petals, on strong, erect stems.

Each 75c

**MADAM VON BYSTEIN**—A magnificent lilac lavender, changing to light blue.

Each 50c

**MAD. J. COISSARD**—Lovely blending of white with carmine red. French variety of greatest merit. One of the most lasting and attractive for cut flowers.

Each 35c

**MRS. JACK GREEN**—(Paeony)—A very large and full flower on a strong stem. Color a beautiful shade of rich scarlet. A California Dahlia that the originator may well be proud of.

Each 75c

**ORIANA** (English Paeony)—An incomparable flower of rare beauty, on long strong stems. Color is pure rose. It is a free bloomer and no description can do it justice.

Each 60c

**OREGON BEAUTY**—Bright fiery scarlet with golden sheen. Free blooming.

Each 35c

**PHILADELPHIA**—Rich reddish-purple, suffused and marked with white.

Each 35c

**PACIFIC** (Paeony)—A California Dahlia of fine form and good stem. Color is beautiful pink, shaded and suffused yellow.

Each 50c

**WHITE FLAG**—Pure snow white. Large flowers on long stiff stems. Very free bloomer.

Each 35c

**SAMOSET**—Light yellow, slightly tinted salmon. Very large, perfect flower of true paeony form with small curly petals in center. Free flowering on erect stems.

Each 50c

**SOUVENIR DE MAASDIJK** (Paeony)—A very large salmon pink Dahlia from Holland with long strong stem. Very good.

Each 75c

**VAN DYCK**—Large graceful flower of lovely salmon pink with heliotrope suffusion.

Each 50c

**WADAWANNOCK**—Bright coral red flower with broad, flat petals. A strong healthy grower with large flowers, good stems.

Each 50c

**AMPHION**—Large mauve, pink flowers, with artistically curled and twisted petals.

Each 50c

### SHOW

**FIRESTONE**—Bright vivid red. Fine for cutting.

Each 35c

**JOHN BENNETT**—Yellow, deeply edged scarlet; very free bloomer; desirable color.

Each 35c

**W. W. RAWSON**—Pure white overlaid with amethyst blue.

Each 35c

**DREER'S WHITE**—A magnificent white of largest size, great purity, long stems.

Each 35c

**A. D. LIVONI**—This grand old variety still remains the best pink of its type.

Each 25c

### NEW DECORATIVE

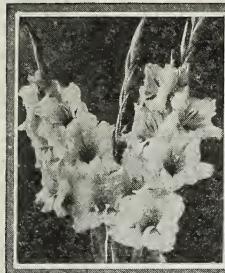
**PRES. LINCOLN**—(New Holland) dark purplish pink; long stiff stem; thick heavy foliage

Each \$1.00

"Dreer's White"



# GLADIOLI



**E**XQUISITE coloring, vigor, ease of cultivation and freedom from insect pests and diseases are making Gladioli universal favorites that should have a place in every garden. They come into bloom at a season when there are few other flowers.

**CULTURE**—*Gladioli may be planted as early as the ground can be worked or as late as June. A sunny situation is preferred. Plant to a depth of 3 to 6 inches, depending on the size of the bulb. Largest bulbs are not always best, as some varieties do not produce large bulbs. Any garden soil will give satisfactory results, but if well enriched, cultivated and freely watered when bulbs first show, Gladioli will amply repay you for this additional care. If cut when the first bud opens and put in water, the flowers will open perfectly, keep for many days, and colorings is richer and more delicate than if left to open on plant.*

## Beautiful New Gladioli

Prices F. O. B. • Portland; if mailed, postage extra

**AMERICA**—Exquisite shade of flesh pink-tinted lavender.

Each 6c, doz. 60c, 100 \$3.50

**AURORA**—Fine scarlet, very early, the earliest of all scarlets.

Each 15c, doz. \$1.50

**BARON HULOT**—A brilliant indigo blue, free flowering and very attractive.

Each 10c, doz. 90c

**BLUE JAY**—A true blue of great beauty, lighter in color and a larger, more attractive flower than Baron Hulot. A rare novelty.

Each 35c, doz. \$4.00

**BUTTERFLY**—Very strong and vigorous grower. Large, pale salmon yellow ruffled flowers. New.

Each 25c, doz. \$2.50

**BRIMSTONE**—Light sulphurish yellow, extra large, new

Each 75c, doz. \$7.50

**CATHARINA**—Wonderful grayish light blue, lower petals a little deeper blue with brownish red spot. A very attractive variety.

75c Each

**CHICAGO WHITE**—Pure white, with lavender markings in throat.

Each 15c, doz. \$1.50

**DREAM**—Large, massive bloom. Deep salmon red. Large, very showy blotches. Extra grand. New.

Each 75c, doz. \$7.50

**FAIRLAND**—Large well expanded flower on tall spike. Vermillion scarlet, lighter toward center. Lower petals very beautifully blotched. Finest shade of deep red. Extra fine.

Each 75c, doz. \$7.50

**GLORY OF HOLLAND**—White with inner throat slightly marked red, sometimes tinged delicate pink.

Each 10c, doz. \$1.00

**GOLDEN WEST**—Bright orange red, with a few darker stripes. A fine flower. New.

Each 15c, doz. \$1.50

**HALLEY**—Salmon pink with creamy white blotch. Large flower and early bloomer.

Each 10c, doz. \$1.00

**LILY LEHMAN**—Brilliant light pink shading to blush white. Flowers resemble a lily. One of the best sorts.

Each 20c, doz. \$2.00

**LE MARECHAL FOCH**—A giant plant and flower. Bright pink. One of the finest. New.

Each \$1.00, doz. \$10.00

**MRS. FRANCIS KING**—Pleasing light scarlet: fine for forcing.

Each 6c, doz. 60c, 100 \$3.50

**MRS. FRANK PENDLETON**—A clear brilliant salmon pink with bright blood-red blotch in throat on lower petal. A superb flower of largest size.

Each 15c, doz. \$1.50

**MYRTLE**—A very fine pink, blending into deeper pink. A beauty. New. Ea. 75c, doz. \$7.50

**NIAGARA**—Lovely deep cream, shading to a canary yellow on the two lower inside petals. The giant flowers open freely, has broad dark green foliage.

Each 15c, doz. \$1.50

**PANAMA**—A new seedling of America, identical except in color, which is much deeper pink. Spike long and the large flowers are well arranged.

Each 15c, doz. \$1.25

**PEACE**—Large flowers of good form: almost pure white: strong grower

Each 15c, doz. \$1.50

**PINK PERFECTION**—Clear, soft pink. The large graceful flowers bloom freely. Most wonderful pink ever introduced.

Each 15c, doz. \$1.50

**PRINCIPINE**—An intense scarlet, with white throat.

Each 10c, doz. \$1.00

**PRIDE OF LANCASTER**—A brilliant orange salmon. Rich, fiery, deeper orange throat. Tall Large, massive bloom. Plenty open. A beautifully ruffled variety. New. Each 75c, doz. \$7.50



## GLADIOLI—Continued

**PRIDE OF HILLEGOM**—Very fine scarlet. Large flowers. New. Each 25c, \$2.50 doz.

**RED, WHITE AND GOLD**—A giant in plant and foliage, with a massive spike and good sized flowers. Upper portion of bloom pure white. Lower petals entirely of a rich lemon yellow clear to the edge, with a beautiful pekargonium-like blotch of richest red on each. New.

Each 75c, doz. \$7.50

**SCHWABEN**—Soft pure yellow, little red stripe on lower petals. New.

Each 20c, doz. \$2.00

**WAR**—A deep, rich, velvety crimson self color. Many consider "War" the most striking Gladiolus ever produced. Our stock is extra fine, and everyone should plant them.

Each 15c, doz. \$1.50

**WILBRINK**—Large flower. Early bloomer. A lovely pink. New. Each 15c, doz. \$1.50

**WILLIE WIGMAN**—Creamy white with red throat, large.

Each 10c, doz. \$1.00

**YOUELL'S FAVORITE**—A large flower and plant. Striking rosy lavender pink. Conspicuous and fine. It is all its name signifies. New.

Each 35c, doz. \$3.50

**DIAMOND MIXTURE**—Select named varieties with choicest Childs' Hybrids.

Each 7c, doz. 75c, 100 \$5.00

**GLADIOLI, FINE MIXED**—A large variety of fine flowers unequalled for the price.

Each 5c, doz. 50c, 100 \$3.00

## CANNAS



PORTLAND  
SEED CO.

**CANNAS** require a rich, moist soil and should not be planted until all danger of frost is past. They are quick growers and the new flowering sorts bloom continuously until frost. Inexpensive, these charming ornamental plants produce rich tropical effects that cannot be excelled, and the varieties offered are equally valuable for the beauty of their bloom.

**PRICES, except where noted: Bulbs or plants in season, each 25c; dozen \$2.50, not postpaid**

**CITY OF PORTLAND**—A magnificent "Test out" pink with salmon suffusion. Luxuriant green foliage, very vigorous and hardy.

Each 35c, doz. \$3.50

**BUTTERCUP**—Pure bright yellow, Green foliage.

**FIREBIRD**—New. Considered the best red-flowered, green-leaved Canna. Flowers are fiery, bright red, borne in immense trusses. Height 4 feet.

**KING HUMBERT**—The mammoth flowers are a brilliant orange-scarlet, with bright red markings, foliage is broad and of a rich coppery bronze with brownish green markings; 5 to 6 feet.

**MAID OF ORLEANS**—Large flowers of rich cream color, shaded and mottled with pink. Bronze markings on the soft olive-green foliage make this variety one of the most attractive among the green-leaved sorts. 4½ feet.

**MRS. ALFRED F. CONARD**—Superb salmon pink flowers of large size, freely produced, very luxuriant green foliage; height about 4 feet.

**JUANITA**—A pleasing combination of terra cotta and chrome yellow. Flowers of splendid form. Bronze foliage. Height 4 feet.

**WINTZER'S COLOSSAL**—Without doubt the largest flowering Canna, the blooms measuring 8 inches across. Flowers are an intense vivid scarlet of the orchid flowering type. Foliage green; 5 to 6 feet.

**WYOMING**—Massive orange colored flowers of orchid shape with bronzy-purple foliage. Height 7 feet.

**YELLOW KING HUMBERT**—Identical with King Humbert in habit of growth. Beautiful yellow flowers dotted with red. Foliage green. Height 5 feet.

# GERANIUMS

**G**ERANIUMS are undoubtedly the most popular bedding plant of the time. Their free rapid growth and continuous blooming qualities keep them in the front rank among the long list of bedding plants. Beds of one color or variety have been very popular of late years, being very

*Standard varieties for*

*bedding—large plants*

\$1.00 to

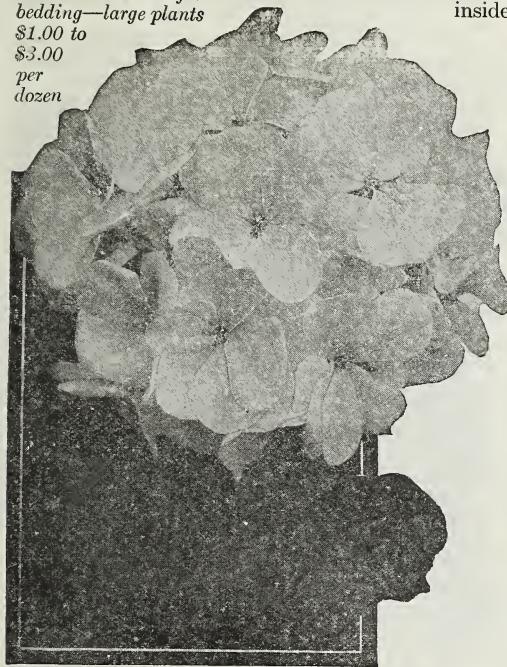
\$3.00

per

dozen

effective in all garden efforts, and for Winter flowers inside nothing is more satisfactory. They are of the easiest culture, requiring to be kept cool and given plenty of air, with an occasional sprinkling of the foliage to clean and freshen it. Keep the roots moist, not too wet, and have good drainage in the pots. No other flower can take their place as bed or border plant, and inside they grow beautifully throughout the year, making cheery house plants.

Our list of varieties include a number of rarely beautiful novelties as well as the very best standard sorts, and prices are so low as to place them within reach of everyone.



**ROMILDA VICINI**—White ground overlaid with light rosy-salmon with a reticulated effect. Upper petals feathered with crimson. Novel colorings.

**ROSAMIE**—Large trusses of fine flowers; delicate rose color, reverse of florets clear violet, the whole maculated with white. An excellent new sort.

**VICTOR GROSSET**—Rich shade of apricot salmon flushed with peach. Flowers large and freely produced. Very handsome.

## Twelve Fine Single Geraniums

Price 15c each; set of 12 sorts \$1.50

**C. W. WARD**—Rich salmon shaded to orange, magnificent zoned foliage.

**EUGENE SUE**—Odd shade of russet orange, very distinct.

**JACQUERIE**—Rich, vivid crimson, immense trusses.

**MAXINE KAVOLENSKI**—Odd shade of orange red; very distinctive, splendid bedder, vigorous, handsome; a dependable sort.

**MADAME CHAPOTAN**—Delicate light pink flowers in very large trusses; handsomely zoned foliage.

**MRS. J. M. GARR**—A grand single white, plants a mass of white bloom, trusses of the grandest size, florets extra large and of the purest white.

## Rare Novelties—Single Geraniums

Price 20c each, set of 8 sorts \$1.40

**FREDERICK PLESSIS**—Large trusses of well rounded florets. Color light scarlet shaded to large, white center, very striking.

**JEAN LIONETT**—Grand trusses on stout, heavy flower stalks. Color reddish purple, each floret maculated with orange in the center. Very distinct and beautiful.

**LUCILE HILL**—Long upright stems; large trusses of the beautiful ruffled form; perfectly circular florets of largest size; rich salmon shaded with rose, an excellent grower.

**MARQUIS DE LONQUEIL**—Rich geranium red shaded to light carmine with very large white center. Large trusses on fine strong stems.

**ALBION**—Beautiful free flowering white variety as pure as driven snow. Always in bloom.

**MADAME MOSNAY**—Peculiar shade of carmine-lake, shaded to violet and white. Very distinct and striking.

**METEOR**—Brilliant crimson maroon. A magnificent bedding variety.

**MILDRED RIVAL**—Pure rose pink, with conspicuous white blotch on two upper petals.

**MRS. A. BLANC**—Silvery salmon shaded to peach; one of the richest colored sorts.

**MRS. E. G. HILL**—Very large trusses of single florets; color clear salmon, with a white center.

**NUIT POITEVINE**—Trusses and florets of grand size; rich, rosy violet; the upper petals feathered with scarlet at their base. Very distinct and much admired.



## Rare Novelties—Double Geraniums

Price 20 each, set of 8 sorts \$1.40

**BLANCAFLEUR**—Fine new double white with flowers of wonderful purity of color. Sturdy growing and free blooming.

**DR. PHILLIPE TISSIE**—Robust grower; large trusses born on long stems light crimson, shaded through magneta to grand white center.

**E. H. TREGO**—Rich crimson scarlet flowers in grand trusses all summer long. A grand bedding variety

**EUGENE CARRIER**—Enormous semi-double florets of rich copper color shaded salmon-rose. Robust growth, trusses immense in size.

## Twelve Fine Double Geraniums

Price 15c each; set of 12 sorts \$1.50

**ALPHONSE RICARD**—Immense trusses of large round flowers of the most vivid scarlet.

**BEAUTE POITEVINE**—Very large, semi-double flowers of a brilliant salmon color. One of our best sorts.

**CONTRASTE**—Rich shade of crimson-lake of velvety appearance. Nice dwarf growth and beautiful foliage.

**EDMOND BLANC**—Large trusses of rich purplish violet flowers borne in greatest freedom. One of the finest dark colored sorts.

**GOLDEN DAWN**—Bright orange scarlet shaded to yellow. Fine large trusses of bloom. Very distinct.

**MME. BARNEY**—A splendid deep pure pink, of a lively shade and grand habit of growth; dwarf and branching.

## Ivy Leaved or Trailing Geraniums

These are unexcelled as basket or window-box plants, as well as being useful in bedding, covering the ground quickly with their deep green, ivy-shaped leaves and brilliant colored flowers.

Price 20c each; set of 6 sorts \$1.00

**BALLADE**—Large double flowers of a tender lilac color, feathered with crimson.

**GARDEN GLORY**—Brilliant scarlet, upper petals veined crimson; rich and attractive.

**CHARLES TURNER**—Brilliant pink, approaching scarlet. Upper petals nicely feathered maroon. Large trusses. Best of all ivy geraniums.

## Pelargoniums—Lady Washington Geraniums

Price 25c each; set of 6 sorts \$1.25

**BRIDEGROOM**—Silvery rose veined crimson, with dark purplish maroon blotches on upper petals. A wonderful bloomer.

**DUCHESS OF PORTLAND**—Large round flowers vinous cerise shaded to vermillion. Upper petals darkly blotched and veined.

**EASTER GREETING**—Remarkable for its free blooming proclivities, equally as fine bedder as a pot plant. The flowers a fiery amaranth red, petals distinctly blotched, maroon.

## New Heliotropes

Price 15c each; set of 4, 50c, postpaid

**ALBATROSS**—Elegant dwarf, bushy growing new variety of great merit; large panicles of pure white flowers in great profusion all season; the best white variety to date.

**HEAVENLY BLUE**—Large, close panicles of exquisite light blue flowers, with a white eye. Grows vigorously and flowers abundantly.

**ERNEST CHEBROUX**—Very large trusses of rich bright cerise colored flowers, each floret with large distinct white eye.

**ELECTRE**—Rich, deep cerise shaded vinous rose, upper petals dashed with white at their base. Dwarf, charming for bedding.

**MADAME TURIN**—Plant vigorous, free blooming with very large trusses of wide florets; ground color pure white, rosy salmon center.

**VIRGINIA**—Delicate daybreak-pink shaded dainty-rose with large white center. Large trusses on strong stalks. Very beautiful.

**MADAME LANDRY**—Distinct salmon pink lightly shaded scarlet. Magnificent trusses.

**MME. RECAMIER**—Snow white; strong vigorous grower; flowers abundantly produced in large trusses.

**MRS. LAWRENCE**—Beautiful satiny pink shaded to white; a gem among geraniums.

**S. A. NUTT**—The best of the rich, dark crimson varieties; trusses massive.

**SCARLET BEDDER**—Bright scarlet flowers in large trusses holding color well in the hottest weather. Never out of bloom. Nice dwarf grower with handsome foliage. One of the best.

**THOMAS MEEHAN**—Bright vinous-rose color, upper petals heavily marked with orange. A rare new color among Geraniums. Wonderfully free in bloom.

**COLONEL BADEN POWELL**—The nearest approach to a pure white variety in this class of geraniums. Fine large trusses.

**INCOMPARABLE**—Exquisite shade of rosy-carmine, sturdy growing and free blooming.

**MADAME THIBAUT**—Beautiful shade of soft rose pink, upper petals delicately feathered with crimson maroon; undulated petals, immense trusses, luxuriant waxy foliage.

## Washington Geraniums

Price 25c each; set of 6 sorts \$1.25

**FAIR MAID**—Lower petals white flushed light pink; upper petals blackish maroon surrounded with crimson and bordered white.

**LINDA**—Bold flowers of clear salmon pink, feathered maroon on upper petals. One of our finest sorts.

**LORD CARRINGTON**—Very large round flowers: crimson maroon surrounded with purplish rose. Large white center. Very distinct.

## Lavender Queen

Price 25c each; set of 6 sorts \$1.25

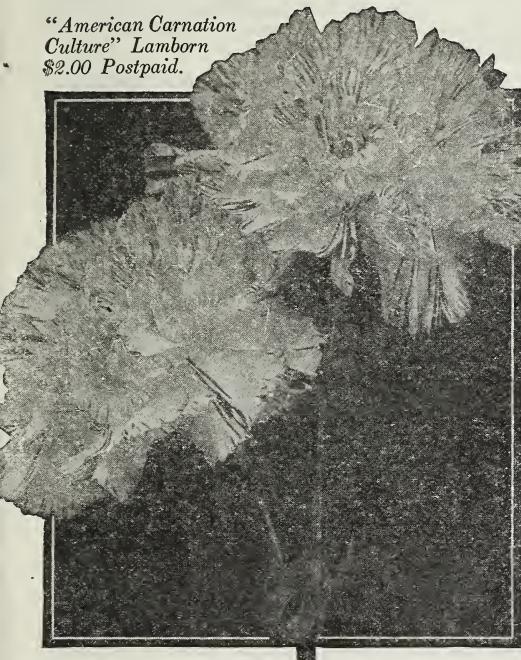
**LAVENDER QUEEN**—Enormous florets, very large trusses of bloom; color, a beautiful shade of lavender, suffused with rosy mauve. A dwarf robust grower, free continuous bloomer.

**ROYAL PURPLE**—Very large and fragrant; color deep violet purple, with white eye; very floriferous; highly recommended for bedding. \$1.00 per dozen.

## Choice Novelties in Carnations

CARNATIONS will thrive in any good fresh garden soil. After danger of frost is over, set 10 to 12 inches apart each way, cultivate and water as needed until they begin blooming, then mulch with light manure that has straw in it; plants should be staked or strung to support them. Carnations are easily grown in the house for Winter flowers. Price 25c each, set of 6 sorts \$1.25

"American Carnation Culture" Lamborn  
\$2.00 Postpaid.



**BELLE WASHBURN**—Very large bright scarlet flowers finely fringed and very fragrant. Free blooming, sturdy branching grower. Believed to be the finest scarlet sort yet produced.

**LADDIE**—Very large, heavily fringed flowers with exquisite fragrance. Color pure rose-pink with silvery shadings. Rank growing variety with long straight stems and leathery blue-green foliage. A superb new American seedling.

**MATCHLESS**—A wonderful new white variety produced by a famous hybridizer of New York State. Large, massive flowers on strong upright stems. Sweetly perfumed.

**POCAHONTAS**—A grand new ever-blooming carnation, producing very large flowers of a rich crimson maroon color. Its rich, velvety color is immensely popular.

**ROSALIA**—Large, handsome, well built flowers of a rich shade of deep pink, tinted with carmine. Remarkably free in bloom for such a large flowered sort.

**RUTH BAUR**—A beautiful new everblooming carnation of robust erect growth. Silvery rose-pink in color so greatly admired in this class of plants.

### Field Grown Carnations for Forcing—for Delivery in Season

#### Standard Everblooming Carnations

Price 20c each, set of 10 fine varieties \$1.50 postpaid

**ALICE**—Large nicely fringed, well formed flowers on stout stems. Colors light pink with silvery shadings. One of the best sorts we have.

**AVIATOR**—Flowers very large and massive with finely fringed petals and strong calyx. Stems long and very stout; color bright rich scarlet. A true everbloomer.

**BEACON**—A bright, deep scarlet; a most perfect color, soft yet brilliant; the flower is of the largest size and perfectly double; nicely fringed; sweet.

**BONORA**—A beauty; fancy variety of fine size and form, borne on long, stout stems. Color white flaked and splashed with red.

**ENCHANTRESS**—Flowers very large, borne on long stems. The color is a superb shade of flesh pink. An early and continuous bloomer.

**HARLOWARDEN**—Rich crimson-maroon flowers of fine size and build. Rarely beautiful variety.

**MRS. C. W. WARD**—Simply superb, both in form and color; brilliant dark pink, of immense size.

**MRS. C. ROPER**—Greatly admired for its beautiful soft rose-pink flowers. Very delicate and pretty.

**WHITE WONDER**—Snow white flowers, produced on strong wiry stems. Nicely fluted and very fragrant.

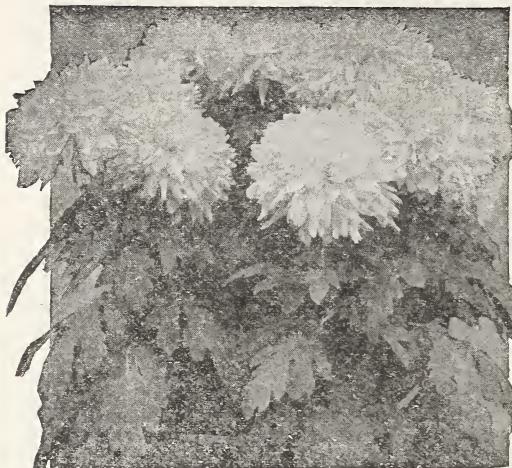
**WHITE ENCHANTRESS**—A pure white sport from the famous variety Enchantress, having the same general habit and characteristics.

**Florists' Supplies** We carry a complete line of high-grade stocks at prices so reasonable that you cannot afford to "Go East" for them. Write us your requirements or send in a trial order.



## Rare New Japanese Chrysanthemums

Price 20c each, set of 10 sorts \$1.50 postpaid



**BETSY ROSS**—Globe shaped blooms of grand size and exquisite finish produced freely during October. Color pure snow-white without the least shading. Superb new American variety.

**BOL D'OR**—Magnificent flowers of the very largest size, forming a perfect sphere. Color rich golden yellow. A fine exhibition variety as well as a good decorative garden variety

**CRYSTAL GEM**—A beautiful new white variety producing its magnificent blooms in much profusion very early in the fall. A glorious decorative variety.

**GLENVIEW**—Fine large Japanese incurved variety, producing freely its rich bronze colored flowers. Sometimes shaded and streaked with Indian-red.

**LIBERTY BOND**—Broad incurved petals of wonderful substance unfolding into a magnificent pure white globe eight inches in diameter. The finest white sort we have had for cut flowers.

**MANCATO**—Enormous exhibition bloom full to the center. Petals tubular, pointed, twisting and curling in fantastic fashion. Color, rosy purple with silvery shadings.

**MIDNIGHT SUN**—Great globes of golden yellow flowers fully eight inches in diameter when well grown. A first class exhibition flower.

**MRS. B. E. HAYWARD**—Rich bright pink blooms of the best incurved form. Fine robust growing and free blooming.

**TINTS OF GOLD**—Bright yellow tinted with bronze. Handsome incurved bloom of great substance and keeping qualities.

**W. H. WAITE**—Immense full flowers of finest incurved form on stout stems. Color rich golden bronze, shaded with terra-cotta. A wonderful piece of coloring.

## Twelve Finest Exhibition Chrysanthemums

Price 15c each, set of 12 sorts \$1.50 postpaid

**CHARLES RASER**—Elegant snow-white incurved blooms of fine size and build. Comes on long stout stems grandly clothed with luxuriant foliage.

**CHIEFTAIN**—Very large and perfectly incurved flowers of a beautiful silvery pink color.

**CHRYSOLORA**—In our field trials during the past season this variety stood out pre-eminently as the finest yellow in the collections. Large incurved flowers of elegant form.

**DR. ENGUEHARD**—Flowers delicate pearl-pink: large, beautifully incurved: very double and of exquisite form.

**GOLDEN EAGLE**—Large golden-yellow flowers of the finest incurved form: petals of great substance tubular or rounded and folding towards the center in elegant manner.

**GREYSTONE**—Fine large incurved broad petaled blooms of a beautiful shade of chamois bronze. Very distinct new color and much admired.

**HARVARD**—The darkest chrysanthemum extant; when well grown it produces a good medium sized bloom of the darkest shade of crimson.

**MAJOR BONNAFFON**—Soft, clear yellow, full in the center, eight inches in diameter and nearly as deep: perfect form.

**MARIGOLD**—A giant in growth and bloom. Luxuriant green foliage clothing its heavy stems each crowned with a gorgeous orange yellow flower of the finest incurved form.

**MRS. H. W. BUCKBEE**—Perfectly incurved globe shaped pure white flowers full to the center. Fine strong grower and free bloomer.

**WILLIAM TURNER**—Pure white in color, and we have never seen anything larger or more impressive for the exhibition table.

**WHITE CHIEFTAIN**—Compact incurved flowers of elegant form and nice size; pure white tinged with pearl. A popular cut flower sort with florists.

## Six Beautiful Flowering Begonias

Price 20c each, set of 6 sorts \$1.00 postpaid.

**BERTHA CHATEROCHER**—Glossy green foliage covered nearly the year round with clusters of bright scarlet flowers.

**COMPTA**—Pointed purplish-green leaves with silvery shadings. Pure white flowers.

**ARGENTEA GUTTATA**—Handsome erect growing sort, with pointed wine-colored leaves with silvery white spots; clusters of pure white flowers on the tips of the stems.

**FOLIOSA**—The freest-flowering Begonia we have. Makes a handsome window plant, with its glossy green leaves and bright pink flowers.

**NITIDA ALBA**—Waxy dark green ovate leaves and graceful pure white flowers.

**PRESIDENT CARNOT**—Very large green leaves with purplish cast on reverse sides. Large pendant clusters of light scarlet flowers.

**REX BEGONIA**—Grown for the beauty of their foliage. The leaves are large, variegated and margined with a peculiar silver-metallic gloss.

Price choice plants each 25c



Rex Begonia

## Free Blooming Fuchsias

Price 15c each, set of 6 sorts 75c

**ANNIE EARLE**—Tube and sepals waxy white; corolla single, clear carmine; plant of splendid and free blooming habit.

**GENERAL ROBERTS**—Flowers very large, corolla plum color; tube and sepals crimson; one of the finest varieties.

**MOLESWORTH**—Fine, large and elegant form, sepals long and reflexed, pure red; corolla large double white.

**SPECIOSA**—A winter blooming variety producing very long, narrow flowers, tube and sepals blush-pink, corolla bright carmine.

**STORM KING**—Superb double white variety well known to all plant lovers.

**TRAILING QUEEN**—Tube and sepals rosy-scarlet, corolla violet purple. Of trailing habit of growth, fine for baskets and window boxes.

## Bedding Lantanas

A fine class of Summer blooming bedding plants also known as shrubby Verbenas. They vie with the Geraniums and Cannas in their brilliancy of colors during the Summer season.

Price 15c each, set of 6 sorts 75c

**CORBEILLE D'ARGENT**—Lovely pure white variety, dwarf and compact.

**IOLANDE**—Beautiful umbels of showy flowers in shades of crimson, orange and yellow.

**LEO DEX**—Bronzy-red and crimson-violet, very striking.

**LYRE**—White with clear yellow centers, dwarf.

**RED AND GOLD**—Dwarf grower. Yellow and orange in center, deep crimson towards edge of umbels. This fine variety has been featured strongly at our Rose Festivals.

**WEEPING LANTANA**—Of trailing habit making it also desirable for baskets and boxes. Lavender colored flowers all Summer long.

## Popular Annual Bedding Plants

Annual bedding plants are so inexpensive and satisfactory that they should be planted extensively for cut flowers in the home as well as for garden effects. They also make splendid displays in tubs and porch boxes. See page 68.

## Mulford Cultures For Alfalfas and Clovers

see page 46. Insures a stand, increases the yield, improves the soil.

**GLADIOLI** make splendid and attractive displays planted in the foreground of shrubbery—in groups on the lawn—in the perennial border or in combination with geraniums or cannas—and once planted will increase and bloom from year to year with very little attention.

**Plant Annuals in the bulb beds.** After the bulbs are through blooming they should be allowed to grow until late summer and the beds can be made very attractive with annual flowering plants without disturbing the bulbs. Forget-me-nots, Petunias, Pinks, Poppies, Verbenas and Candytuft are among the best.



## Miscellaneous Flowering Plants

The following includes many useful and beautiful plants for Baskets, Porch Boxes, Bedding and House Plants

**ABUTILON ECLIPSE**—Handsome variegated foliage; bright pendant flowers of scarlet and gold colors. Fine for vases and baskets.

Each 20c

**AGERATUM**—*Blue Star*—Bedding and border plant growing one foot high. Feathery blue flowers all Summer.

Each 15c, \$1.00 per doz.

**CALCEOLARIA**—*Shower of Gold*—Pretty clusters of golden yellow flowers all through the season.

Each 20c

**CINNAMON VINE**—A beautiful vine of rapid growth, suitable for porches, trellises, etc.

Large roots 15c each, 2 for 25c

**COLEUS**—*Fancy Leaved*—Coleus are the most important of all the fancy leaved bedding plants. They also make very fine pot plants, especially if you have a warm room to winter them in.

Each 15c, 6 fine sorts 75c

**PERSIAN CYCLAMEN, Giant Flowered**—Cyclamen have circular fleshy leaves of rich metallic green variously marked with silvery stripes. The flowers appear at the approach of cool weather and continue blooming throughout the Winter. Colors, red, pink, and white. 25c each, larger plants 50c each postpaid

**COMMON IVY**—Waxy green leaves, strong growing vine for window and porch boxes or for hanging baskets.

Each 15c

**GENISTA RACEMOSA**—*Shower of Gold*—Its pendant shaped flowers literally smother the plant during the Spring months, while at other times its graceful dark green foliage makes a very ornamental plant. Easily grown.

Each 25c, add 10c if postpaid

**GERANIUM ROSE SCENTED**—Cultivated for its sweetly scented leaves.

Each 20c

**MESEMBRYANTHEMUM SPECTABILIS**—Quilled shaped, succulent leaves with large single thistle-like cerise pink flowers. Fine for baskets, vases or porch boxes.

Each 15c

*Burbank Thornless Blackberries are of very recent introduction. They are all and more than any one has claimed for them. We candidly believe that in the near future the majority of blackberries grown, both for home use and for shipping and the canneries will be of the Thornless sort. You should try a few of these. See Autumn Catalog.*

## Flavoring and Medicinal Herbs—Plants

**CHIVE**—Has mild onion flavor, grows in grass-like clumps; much used for flavoring.

Each 15c, doz. \$1.50

**ROSEMARY**—Infusions of the leaves are used in medicinal beverages. Produces an aromatic oil.

Each 25c, doz. \$2.50

**PEPPERMINT**—Hardy perennial for producing oil.

Each 25c, doz. \$2.50

**THYME**—Broad leaved, used in soup, stuffing and sauce.

Each 25c, doz. \$2.50

**PETUNIA, Irvington Beauty**—Single-flowered. A very popular bedding and window-box plant. Covered all season with beautiful light pink flowers veined green and shaded to white in the throat.

Each 20c, 3 for 50c

**PRIMROSES, New Giant Obconica**—The crisp green leaves spring up luxuriantly amid which appear, all season, stout little stalks, each surmounted by a pretty cluster of lavender-pink flowers several inches across. One of the finest Winter blooming house plants for a cool room. Price 20c each, larger plants 35c and 50c each, add 10c if postpaid.

**PRIMROSES, Chinese Fringed**—Are easily grown in a cool room, delighting in a light sandy soil. Flowers are fringed, produced in trusses well above the fresh lively green foliage, which of itself is very handsome. Colors, red, pink, white. Price 25c each, larger plants 35c and 40c each, add 10c if postpaid.

**SALVIA—New Zurich**—A distinct and attractive variety of compact dwarf growth, of neatly rounded form, closely set with stiffly erect spikes of bright scarlet flowers.

Each 15c, per. doz. \$1.25

**SMILAX**—For using as a green with cut flowers. Fine as a parlor or window plant.

Each 15c

**VINCA VARIEGATA**—Leaves are a glossy green, broadly margined a creamy white. They best of trailing plants for window boxes.

Each 20c, 2 for 35c

**VERBENA—New Mammoth**—The Verbena is, next to the Geranium, the most popular of all bedding plants. Assorted colors.

Each 15c, doz. \$1.00

**WANDERING JEW—*Tradescantia***—White and Red Variegated.

Each 15c

## Mastodon Pansies in Bloom

From March until June we offer our famous "Mastodon" Pansy plants in full bloom. Put up one dozen in a basket. Mailing weight 4 lbs.

Price, 60c to \$1.00 per basket, not prepaid

*LAVENDER*—By distillation produces the well known Lavender water, the flowers for perfume wardrobes, etc. Each 25c, doz. \$2.50 Large clumps, each 50c

**SWEET MARJORAM**—The sweet, aromatic leaves are used in either the green or dry state.

Each 25c, doz. \$2.50

**SAGE (Giant)**—The leaves and tender tops are used in stuffings and sauce; also in the beverage known as Sage Tea. The Giant Sage is a greatly improved variety. Each 20c, doz. \$2.00



# VEGETABLE PLANTS

WE grow large quantities of vegetable plants, and can supply all the kinds listed below, in their proper season, in most any quantity. We have made arrangements this year so that we can supply all vegetable plants in two grades. If you want a quantity of plants write us early.

Transplanted plants are much stronger and better rooted, and are well worth the price especially in the early part of the season. We can supply most any of the leading sorts. No plants sent C. O. D.

**→ All Prices are Subject to Crop Conditions and Market Changes.**

## CABBAGE

Transplanted and "pulled" plants in all standard varieties. Early and late at seasonable times.

Prices	Postpaid	Not Prep'd	
	Doz.	100	1000
Transplanted.....	\$0.25	\$1.25	\$1.00 \$8.00
Not transplanted.....	.15	1.00	.75 6.00

## F. O. B. Portland

### KALE

When you order Kale be sure to state whether you want the Garden Kale or the "Cow" Kale.

Prices	Postpaid	Not Prep'd	
	Doz.	100	1000
"Cow Kale".....	\$0.20	\$1.25	\$1.00 \$6.00

Garden or Curley

Kale.....	.25	1.50	1.25 10.00
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Special prices on large lots in season.

### BROCCOLI

Our famous "St. Valentine" Broccoli should be in every garden. Broccoli is a Winter cauliflower very hardy and of the finest quality—"St. Valentine" is the best variety; plants can be set after June and are ready to use in March.

Prices	Postpaid	Not Prep'd	
	Doz.	100	1000
Broccoli.....	\$0.30	\$1.50	\$1.25 \$12.00

**→** Write for prices on large lots. We will grow them to your order.

### SWEET POTATO PLANTS

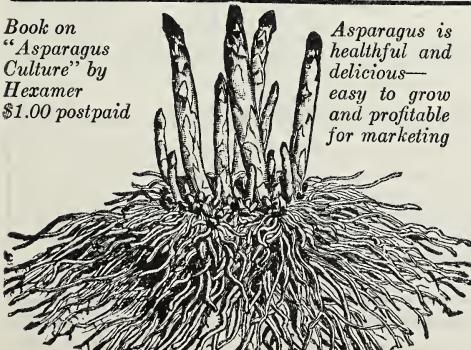
Sweet Potatoes can be successfully grown in most sections. The plants should be set out after the ground is warm. Rich, sandy bottom land is best, but any good garden soil will give good returns.

Prices	Postpaid		Not Prep'd	
	For seasonable	Doz.	100	1000
delivery.....	\$0.35	\$1.50	\$0.25	\$1.25 \$10.00

**BLACKBERRIES:** Burbank's Thornless, introduced by Luther Burbank. Medium early to late, jet black, hardy, good size, round, bears in large clusters over a long season. A rampant grower, heavy yielder, fine flavor, sweet and luscious. Unsurpassed for table or canning. A good shipper. All a berry grower or lover of the fruit could wish.

**PRICE:** Each 25c, 10 \$2.00, 100 \$20.00.

Book on  
"Asparagus  
Culture" by  
Hexamer  
\$1.00 postpaid



Asparagus is  
healthful and  
delicious—  
easy to grow  
and profitable  
for marketing

### Asparagus Roots

**ONE-YEAR-OLD PLANTS**—Postpaid 30c doz., 75c per 50, \$1.15 per 100; by express or freight, 25c doz., 60c per 50, \$1.00 per 100, \$8.00 per 1000.

**TWO-YEAR-OLD PLANTS**—Postpaid 40c doz., \$1.00 per 50, \$1.75 per 100; by express or freight 30c doz., 75c per 50, \$1.25 per 100, \$10.00 per 1000.

### Horseradish

Postpaid 5c each, 35c per doz.; by express or freight 25c doz., \$1.50 per 100.  
Write for prices by the 1000.



# DIAMOND FERTILIZERS

*The Base is Bone Meal and Tankage—No Cheap Filler. Every Pound is Good Fertilizer*



**DIAMOND QUALITY Fertilizers** are complete fertilizers of the highest grade and concentration, no inferior ingredients or cheap fillers are used in their preparation, Bone Meal and Tankage forming the base to which is added the necessary Potash, Nitrogen and Phosphoric Acid. Each package is marked plainly, showing the percentage of available plant food.

**SPECIAL FERTILIZER BOOKLET** giving complete details and prices of the different fertilizers which we can supply, together with full information for their application, will be sent on request. This booklet is instructive, reliable and of great value to all interested in fertilizers

## FERTILIZERS IN SMALL GARDENS

Amateur garden makers are often puzzled as to the amount of fertilizer needed for their small plots, because the usual directions give only the amount per acre. The following table shows (approximately) the proper proportions:

- 100 lbs. per acre equals 1 lb. for a plot 10 x 43 ft.
- 200 lbs. per acre equals 1 lb. for a plot 10 x 21 ft.
- 300 lbs. per acre equals 1 lb. for a plot 10 x 14 ft.
- 400 lbs. per acre equals 1 lb. for a plot 10 x 11 ft.
- 500 lbs. per acre equals 1 lb. for a plot 10 x 9 ft.

**Applied in quantities of 1,000 lbs. to a ton per acre**, our fertilizers, with intelligent culture will sustain and gradually improve the soil and increase the yield and quality of the product, even though the crop be entirely removed and no other manuring done. The roots, vines, stubble and whatever of weeds or waste there is, all assist in providing the necessary humus. A greater amount is often used to advantage by market gardeners. Complete instructions will be found in our Fertilizer Booklet, sent free. If there is any special information you require, write us; your inquiries will have our prompt and careful attention and our experience may help you.

**A 100-Pound Bag of High Grade Commercial Fertilizer** will contain more soluble and available plant food than 4,000 pounds (two tons) of stable manure of average quality. How much easier and cleaner to handle one 100-pound bag than 2 tons of manure, and there are no weed seeds to worry over. Always remember that the commercial value depends upon the available or soluble contents of a mixed fertilizer, and the price is governed thereby. The figures giving the soluble, insoluble, totals, etc., unless understood, are often misleading apparently giving a greater percentage of the various elements than are actually available.

The amount of commercial fertilizer used in the West is exceedingly small as compared with the amounts used in the East and Middle West. This is probably due to the prevailing belief that commercial fertilizers are not necessary in this section and also due to the fact that their importance and benefit are not understood or appreciated. Each year the growing crops take from the soil hundreds of pounds of Nitrogen, Phosphoric Acid and Potash, and it should be obvious to all that ultimately the quantity remaining will be so small as to make profitable cropping impossible. The importance of maintaining soil fertility by replacing annually the chemicals removed by the growing crops should not be overlooked, and as the amount of stable manure available is entirely inadequate, the sooner the grower decides to make up the deficiency by the application of high grade commercial fertilizers the sooner will he check the annual loss of fertility and bring his land back to its original fertility.

## —VALUE OF ‘DUSTING SULPHUR’—

**T**HE most common fungous diseases that annoy the gardener and orchardist are Mildew on climbers and roses or flowers, Early Blight on potatoes, Scab on apples and pears, and Brown Rot on peaches. **DUSTING SULPHUR** is good for all these.

This superfine sulphur, which will readily pass a sieve equal to more than 40,000 holes to the square inch, is the only sulphur sufficiently fine for use in Dust Mixtures. This excessive fineness means greater covering power, more complete and uniform distribution, and consequently better disease control. See Index.

**Note** AS FERTILIZERS ARE SOLD ON A SMALL MARGIN, PRICES ARE SUBJECT TO MARKET CHANGES, but you will always get FULL VALUE for your money

# DIAMOND PLANT FOOD

For Ferns, Palms and House Plants. Clean, Odorless  
Highly Concentrated.

A complete, highly concentrated, powerful fertilizer, clean and odorless, wonderfully invigorating to all plants: producing luxuriant foliage and larger and more brilliant flowers.

A 40c package will feed a dozen large plants a whole year. Special instructions on each package.

Price:  $\frac{1}{2}$  lb. pkg. 25c, by mail 35c; 1 lb. pkg. 40c, by mail 50c  
**PRICES, FERTILIZER, F. O. B. PORTLAND, OREGON**



## GENERAL AND VEGETABLE

An all-round fertilizer, which can be used on any crop, but is especially adapted for grain and general farm crops. Analysis: Nitrogen, 2 per cent; phosphoric acid, 8.25 per cent; potash, .60 per cent.

**10 lbs. 50c, 100 lbs. \$2.75, ton \$50.00**

## FRUIT AND ONION FERTILIZER

This fertilizer is also used for blackberries, raspberries, etc. We sell large quantities for growing the famous Hood River strawberries. Analysis: Nitrogen,  $2\frac{1}{2}$  per cent; phosphoric acid, 8.25 per cent; potash, 1.30 per cent.

**10 lbs. 50c, 100 lbs. \$3.15, ton \$63.00**

## ODORLESS LAWN AND ROSE

Our Diamond Lawn Fertilizer promotes a vigorous, healthy growth, giving the desired dark rich green appearance; can be used at the time the seed is planted and later as a top dressing. One hundred pounds is sufficient for an ordinary city lot, and is far more effective and less objectionable than stable manure. Remember, it contains no weed seeds. When used as a top dressing it is best to make several light applications about two weeks apart.

**10 lbs. 50c, 25 lbs. \$1.00, 50-lb. sack \$1.80,  
100 lbs. \$3.25, ton \$60.00**

## BONE MEAL

Fine ground, is one of the best fertilizers. This is the only grade of Bone Meal, and is reduced by improved machinery to an even fineness—nothing is added. This is a very valuable enricher of the soil, and one of the most economical at present prices. **5 lbs. 30c, 10 lbs. 50c, 100 lbs. \$2.75, ton \$54.00**

## SHEEP GUANO

The best natural manure, dried and ground. Concentrated, soluble; quick in action, and free from weed seed. Splendid for vegetables; fine for roses and flowers. Excellent for lawns.

**10 lbs. 40c, 25 lbs. 75c, 50 lbs. \$1.00, 100  
lbs. \$1.65, ton \$30.00**

## LAND PLASTER, OR GYPSUM

Made from pure gypsum, free from clay or other foreign matter. This is especially valuable for clover crops.

**10 lbs. 25c, 100-lb. sack \$1.25, ton \$20.00**

**ASK FOR FERTILIZER BOOKLET AND  
SPECIAL INFORMATION REGARDING  
SULPHUR.**

## SUPERPHOSPHATE

This is a concentrated form of phosphoric acid, and it is actually the cheapest form in which to buy phosphoric acid. Our present stock contains 18 to 20 percent available phosphoric acid.

**Per lb. 5c, 100 lbs. \$2.15, ton \$40.00**

## TANKAGE

Ground meat scraps and bone, dessicated in a vacuum, is very rich in phosphoric acid and nitrogen. **Per 100-lb. sack \$2.75, ton \$50.00**

## NITRATE OF SODA

For immediate results Nitrate of Soda is the very best for stimulating and forcing the growth of plants or any other crop.

**1 lb. 10c, 100 lbs. \$3.80, ton \$70.00**

## FISH GUANO

Fish cooked, dried and ground is a strong fertilizer, rich in nitrogen, carrying considerable phosphorus and largely used by vegetable growers. We do not recommend this for lawns or city use, as odor is objectionable.

**100 lbs. \$5.25, ton \$100.00**

## POTASH

KAINIT is an imported potash salt containing 12 to 14 percent of potash. A good fertilizer for all crops except tobacco.

**100 lbs. \$2.25, ton \$40.00**

## H. O. LIME

A blended mixture of Raw Ground Limestone and Hydrated Lime. Much more effective than Raw Ground Lime Rock, and practically goes twice as far. Specially recommended for Sour Soils.

**100 lbs. \$1.50, ton \$28.00**

## LIME

**LIME ROCK**—Fine Ground.—This is the form of lime recommended by the Agricultural Department. Use  $\frac{1}{2}$  to 1 ton per acre.

**100 lbs. \$1.25, ton \$20.00**

## BEAUTIFY YOUR LAWNS

Use Diamond Lawn Fertilizers, and seed Diamond Lawn Grass, it makes a velvety green turf.

**PLANT more PERENNIAL FLOWERS  
NOW, for THE WORLD'S FAIR, PORT-  
LAND, 1925.**



# SULPHUR FOR ALL PURPOSES

## To Increase Crop Yields

Experiments conducted during the past few years by noted soil chemists and practical cultivators have revealed that sulphur—

1. Is readily utilized by plants as stimulating food.
2. It improves alkali soils by neutralizing the alkali which rises to the surface or which is carried in by the irrigation water.
3. Promotes nitrification: Dr. F. C. Reimer, in Oregon Agricultural Bulletin No. 163, says, "The various sulphur fertilizers have a very stimulative effect on the root system, increasing its size and the number of nodules. This is of great value in taking up larger quantities of plant food, moisture and atmospheric nitrogen."
4. Transforms latent potash and phosphates into available plant food.
5. Increases protein and feeding value of crops.
6. Destroys the spores of Fungi and larvae of injurious insects in the soil. Has prevented potato scab, wire worms, eel worms or nematodes, ants, smutty grain, etc.

Drill into the soil 200 to 400 pounds per acre of "TORO" Brand.

\$5.00 per 100 pounds.

Write for Prices in Quantities



## ANCHOR BRAND VELVET FLOWERS OF SULPHUR

For Dry Dusting of Trees, Vines, etc., Bleaching Fruit, etc.

It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards **SIX** times they will not be affected by **MILDEW** or **RED SPIDERS**.

Anchor Brand Velvet Flowers of Sulphur, also Eagle Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and **PUREST** sulphurs that money can buy: the best for vineyards; the best for bleaching purposes, **LEAVING NO ASH**.

**VENTILATED Sublimed Sulphur**—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and Making Paste or wettable Sulphurs.

\$5.00 per 100 pounds. Write for Prices in Quantities.



For Lime-Sulphur Solution, Fertilizing, and General Purposes, Use Our

## DIAMOND "S" BRAND REFINED FLOUR SULPHUR



**SULPHUR, The New Fertilizer**—Recent field experiments in the Northwest have demonstrated the fact that Sulphur is one of the most valuable fertilizing materials that can be applied to the soil, not only being readily taken up as a powerful stimulant by practically all classes of vegetation, but having the further and more valuable property of making available the insoluble potash and phosphoric acid contained in all soils as well as being an effective fungicide and insecticide. We offer agricultural Sulphur in two forms:

**DIAMOND S SULPHUR**—Finely powdered and 100% pure. **Price** 100 lbs. \$2.75. Write for Prices in Quantities.

## SPRAYS, INSECTICIDES

 **NOTE**—Poisonous Sprays marked \* cannot be mailed.

**“CORONA” Arsenate of Lead—DRY POWDERED**

Contains only Arsenic and Lead Oxides. No Fillers

**MIXES QUICKLY AND EASILY. STAYS MIXED LONGER**

**AND STICKS** better to leaves, branches and fruit  
than ANY OTHER Arsenate.

“CORONA” Dry Powdered Arsenate is a light, fluffy powder that cannot freeze, dry out, cake or lose its strength—carries the highest possible percentage of arsenic oxide, 33%—is always uniform and requires only one pound to 50 gallons of water. *Efficient, economical and convenient. Highest percentage of killing power.*

Prices,  $\frac{1}{2}$  lb. 25c, 1 lb. 40c, 5 lbs. \$1.50, 10 lbs. \$2.50, 25 lbs. \$5.00, 50 lbs. \$9.00.

 **Caution Against Spraying When Trees are in Full Bloom**—Spraying when trees are in bloom may destroy bees and other insects necessary to pollinate and these natural agents should not be interfered with as their work of transferring the pollen insures beautiful crops and shapely fruit.

**FOR DUSTING**—“CORONA” DRY used as a dust spray is a safe, inexpensive, easily applied and efficient remedy for all chewing garden pests—and for use on fruit trees, berry bushes and plants—that will insure perfect fruit and clean vegetables.

“Garden Pests and their Control” and full information about “CORONA” mailed on request

**Use “CORONA DRY” in Your Vegetable Garden for Preventing  
and Exterminating Leaf Eating Insects**

**TOMATOES**—For tomato worms, flea beetles, etc., make first application two weeks after setting out the plants.

**CUCUMBERS**—All chewing insects that injure cucumbers are quickly destroyed by dusting leaves and stems above and below. Corona Dry will not burn the foliage as Hellebore does.

**POTATOES**—Corona Dry is fatal to flea beetles and all chewing insects that damage the foliage. Mixed half and half with Dusting Sulphur will control and prevent early blight.

**SWEET CORN**—The corn ear worm develops from an egg on the new silk or husk and feeds on the silk, following it into the ear. “Corona Dry” gives absolute control of this pest. Thoroughly dust the new silk as soon as it appears.

 Choose a bright day with a light wind and apply the powder from the windward side. It is not necessary to have the foliage appear white but care should be taken to cover all parts. **Begin Early.** Don’t wait until the damage is done.



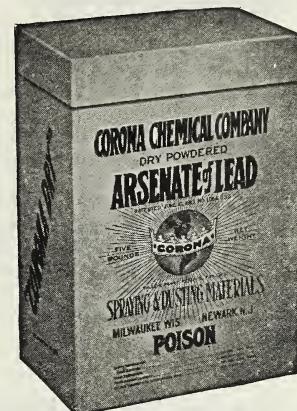
**CARBOLINEUM—AMERICA—Wood Preserver**—This is the pure CARBOLINEUM, used for preserving any kind of timber above or below ground. Painting roofs, fence posts, farm buildings, chicken houses and roosts to prevent mites and other pests.

Quart Can 60c, weight 4 lbs.; gal. \$2.00; 5 gals, \$7.50

**CORONA DRY BORDEAUX MIXTURE**—Dry Powdered Bordeaux when mixed with cold water in the proportion of nine pounds to fifty gallons, gives a standard Bordeaux Mixture. Keep in a tightly closed package.

Price: 1 lb. 40c, 5 lbs. \$1.35, 10 lbs. \$2.75, 25 lbs. \$6.00,  
50 lbs. \$10.00, 100 lbs. \$18.00.

**SULPHUR—FOR DUSTING**—Use the ANCHOR Brand. See page 90.



# Sprays, Spray Material, Washes—Continued



## VEGETABLE SPRAY

For destroying and preventing maggots, grubs and worms that infest turnips, radishes, beets, rutabagas, cabbage and cauliflower, etc., also recommended for combating crown borers in strawberries.

1/2 pt 35c, pt 65c, qt \$1, 1/2 gal \$1.50, gal \$2.50

### Portland Seed Company's APHISCIDE

#### Our Best Summer Spray for Roses

A clean, efficient spray for aphis, thrip, and kindred insects on plants of any kind. Specially fine for house plants, as it has no offensive odor and will not injure or stain the plants.

Price qt. 35c, gal. 65c



Reg. U. S. Pat. Off.

**BUG DEATH**—A non-poisonous insect-killing powder that is in high favor among gardeners for cabbage, tomato and cucumber bugs, etc. Use 12 lbs. per acre. Per lb. 35c, 5 lbs. \$1.00.

**BUHACH**—Oz. 30c, 1/4 lb. \$1.00, 1 lb. \$1.75

**TREE TANGLEFOOT**—For caterpillars, moths and worms. Protects against all climbing insects. One pound makes a band 9 feet long. Price 1 lb. 50c, 5 lbs. \$2.25, 10 lbs. \$4.25, 20 lbs. \$8.00.

**HAMMOND'S SLUG SHOT**—For destroying slugs, cabbage and turnip flea, currant worms, etc. Per lb. 20c, 5-lb. pkg. 75c

**HAMMOND'S GRAPE DUST**—To prevent mildew on roses, grapes, and gooseberries. Per lb. 15c, 5-lb. pkg. 65c

### PURITAN LIME

A specially manufactured and highly refined lime product for household and other uses. Can be used as a whitewash or for any purpose where a slack lime is desired

Price per pkg. 50c

### CREOLA

A white disinfectant paint in dry powdered form.

Ready to use when mixed with cold water. Excellent for use in chicken house, stable, dog house, hog house, dairy, etc. Keep the interior of your buildings clean.

Price per pkg. 75c

**NICO-FUME**—The best fumigant and spray for greenhouse work. Kills aphis, red spider, mealy bug, thrip, etc.

1/4 lb. 75c, 1 lb. \$2.35, 4 lb. \$8.50, 8 lb. \$16.50

### A SUCCESSFUL REMEDY FOR CABBAGE MAGGOT

### “BLACK LEAF 40” 40% Nicotine

Destroys Aphis, Thrips, Leaf Hoppers on all tree, bush and vine fruits, vegetables, field crops, flowers and shrubs; also Apple Red Bug, Pear Psylla and similar soft-bodied sucking insects—all without injury to foliage. Combines readily with other sprays.

1 oz. 6 gals, spray	\$0.35
1/2 lb. 40 to 120 gals. spray	1.25
2 lb. 160 to 500 gals. spray	3.75
10 lb. 800 to 2500 gals. spray	\$15.50



### CUT WORM FOOD

#### Use a Teaspoonful to a Plant or Hill

Cut worms are very fond of this special preparation which is eagerly eaten by them in preference to the plants. A careful test proved 95 per cent of the applications effective on Melons, Cucumbers, Cabbage, Cauliflower, Squash, Tomato and Flowering Plants. Easily applied by sprinkling around the plants and will not injure them in any way. Price, 1-lb. pkg. 50c, 5 lbs. \$2.00

### BLUE LABEL SLUG DESTROYER

Kills slugs and keeps them away from young plants. Not harmful to delicate foliage.

For Sweet Peas, Pansies and all garden truck, sprinkle lightly on and around the plant.

Price
1 1/2 lb. pkg. 25c
6 lb. pkg. 75c



### BLUESTONE—(Vitriol)

Lb. 20c, per 100 lbs. market price

\***PARIS GREEN (Lion Brand)**—The standard of purity. Guaranteed superior to other makes.

Price, 1/4 lb. 25c, 1/2 lb. 40c, 1b. 75c

**FISH OIL SOAP**—For aphis, plant lice, etc.

Per bar 25c, 100 lbs. bulk \$14.50

### TOBACCO DUST

Lb. 20c, 10 lbs. \$1.50, 100 lbs. \$12.00

*You can control*

### ROOT MAGGOT

Absolutely Protects

CABBAGE, RADISHES,  
TURNIPS, ONIONS, Etc.

*A Positive Remedy for Root  
Maggot*

PRICES, 2 lbs. 35c, 4 lbs. 60c, 8 lbs. \$1.00,  
25 lbs. \$2.50



## DRY LIME SULFUR

Controls all scale and fungus diseases for which Lime-Sulphur Solution is recommended. More convenient to handle and saves freight on water. Put up in air-tight packages which should be used when opened. For Winter spray use ten to fourteen pounds to fifty gallons of water. For summer in combination with Arsenate of Lead use two to three pounds to fifty gallons of water.

Price: 1 lb. 25c, 5 lbs. \$1.00, 10 lbs. \$1.80, 25 lbs. \$3.75, 100 lbs. \$12.00.

## DIAMOND LIME AND SULPHUR SOLUTION

### For San Jose Scale

*You cannot afford to risk a cheap, open kettle product. Be safe. Use the best.*

**Diamond Lime and Sulphur Solution** is prepared in pressure tanks by steam, and is always uniform and of the highest efficiency tests 30 Baume Scale, is made of the purest and best quality of Sublimed Sulphur and of Lime, is a clear, deep cherry colored liquid, free from sediment, and is all ready to mix just as you get it. Merely add eleven gallons of water with each gallon of the Lime and Sulphur Solution. There is no sediment to clog the sprayers. No boiling to be done, which saves fuel, time, labor and annoyance. It is always alike and uniform in strength and results.

Price: 1 qt. 30c, 1 gal. 75c, 5 gals. \$2.40, 50-gal. bbl. \$12.00 f. o. b. Portland

## DIAMOND SPRA-OIL

**SPRA-OIL** is a miscible oil spray manufactured at Hood River, Ore., and has been used by the big commercial orchards in that section with the greatest success, especially in spraying for leaf roller.

As a **SUMMER SPRAY**—Very efficient for young San Jose Scale and certain Aphis, when diluted with 50 to 100 gallons of water to one gallon of Spra-Oil—depending on the foliage, which, if very tender, should be sprayed with a weaker solution than 1 to 50.

As a **WINTER SPRAY**—For San Jose Scale, Pear Scylla, Leaf Roller, Woolly Aphis, use one gallon of Spra-Oil to 15 or 16 gallons of water.

**Directions for Diluting**—Shake and stir well while in the original package; after this, mix with one part of water to one part of *Spra-Oil*, which will readily emulsify to a creamy consistency. When this is thoroughly mixed, put it in the spray tank and it will stay in suspension.

Price: qt. 40c, gal. 95c, 5 gals. \$3.50.  
10 gals. \$6.50, bbl. \$22.00 f. o. b. Portland.

## KAYSO

It pays to use a good spreader when spraying, and Casesin lime spreader is the best yet. Ready to use, no cooking, no odor, cost trifling. For a thoro job use it and it sticks in spite of rain. Write for descriptive matter.

Price: 1 1/2 lb. carton 40c, postage extra, 100 lbs. with measure \$20.00 f. o. b. Portland.

# FORMALDEHYDE

Will Prevent Oats Smut,  
Stinking Smut of Wheat, Barley Smut  
and Leaf Stripe

Use one pint formaldehyde in 40 gallons of water for wheat and barley. Spray oats with one pint formaldehyde in 10 pints of water. For Potato Scab soak the potatoes for two minutes in a warm solution (118° to 122° F.), one pint in 15 gallons of water; small lots on the stove in wash-boiler; larger lots in tank heated with tank heater and large lots in tank heated by steam from tractor or other boiler. Full directions on application.

Pts. 75c, Qts. \$1.30, Gal. \$3.50

### CABBAGE DISEASES

Brown or black-root cabbage is a bacterial disease. Club-root is a slime mold disease. Fusarium wilt, known also as "yellow," Black leg, known also as wilt, fungous diseases. Treat all just previous to planting. Soak for twenty minutes

### ONION SMUT

This disease lives in the ground. It appears on the young plants, which are stunted, as numerous blisters which are filled with a black powder. If necessary to use infected land, apply solution in drill 1 pint to 16 gallons water, after dropping the seed and before covering it, at the rate of 1 gallon solution to 85 feet of row. (12 pints Formaldehyde to 200 gallons water per acre). Onion sets are not subject to smut injury.

in a solution of one part formaldehyde to 320 parts water or 1 teaspoonful to 1 pint of water.

### CUCUMBER ROOT ROT

Thoroughly wet soil with Formaldehyde solution: 1 pint to 12 1/2 gallons of water. Wait several days before planting.

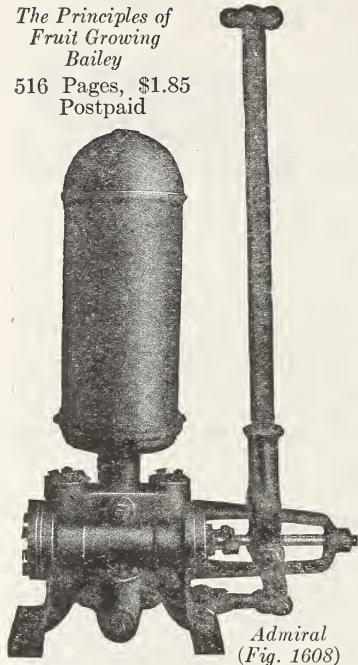
### LETTUCE ROSETTE AND ROT

Wet soils in green houses or out of doors two weeks before setting of plants with one part Formaldehyde to 100 parts of water, using one gallon to each square foot of surface.



*The Principles of  
Fruit Growing  
Bailey*

516 Pages, \$1.85  
Postpaid



Admiral  
(Fig. 1608)

## Gould's Spray Pumps

We are General Agents for the Gould Sprayers, guaranteed to be the best built, most lasting and of the highest efficiency. They are the recognized standard.

### GOULD'S "ADMIRAL" DOUBLE ACTING SPRAYER

*For Large Orchards, Parks, Groves, Etc.—Very Powerful*

The "Admiral" is double acting and produces a steady stream at the nozzle, is built for continuous hard work and high pressure. Especially designed for large orchards, and will meet every requirement. The brass cylinder lining is of heavy seamless tubing, with a cast bronze cylinder head, and can be easily removed. The valves are all brass, and each one in a separate valve box. They are easily reached by removing the bronze valve box covers. The brass piston rod is outside guided, making a perfectly straight thrust through the stuffing box, which is outside packed. Capacity four leads of hose, and will be found fully as serviceable as a power sprayer and one of the best spray pumps for power outfit.

**Outfit A**—Pump only, strainer and suction hose couplings **\$42.50**

**Outfit B**—Pump with 8-foot suction hose and strainer . . . . . **46.50**

**Outfit C**—Pump with 8-foot suction hose, two 25-foot leads, best spray hose, two 8-foot bamboo extensions, with Globe valves and nozzles . . . . . **64.00**

**Admiral Pump with 3-inch cylinder** furnished on any of above outfits for **\$4.00** extra.

**Pitman** to connect Admiral for power.

**Extra, \$1.25**

### MONARCH TWO-CYLINDER SPRAY PUMP

**Fig. 1640—Monarch**—This pump has many advantages and we believe it is the best of the large pumps. The main advantages are: First, the long lever, which can be shifted to pull or push, or to lift or drop, and can be changed by the operator any time he desires a relief; second, pump stands outside of the barrel, and all parts can be easily looked after; third, cylinders are perpendicular, and any grit will not lie against the plunger, to wear it or the packing out, as in the case with the horizontal cylinders; fourth, there are no valves in the plungers; the packing is on the outside, and can be tightened any time, without taking anything to pieces; fifth the four brass valves (each one by itself and under a separate cap), can be reached by merely unscrewing the cap, and without disturbing the rest of the pump.

**Outfit A**—Pump only, 2-inch cylinder, including strainer and hose connection . . . . . **\$40.00**

**Outfit B**—Coupled with 6 feet  $\frac{3}{4}$ -inch suction hose . . . . . **42.00**

**Outfit C**—Pump, suction hose, 25 feet best spray hose, 8-foot bamboo extension, Globe valve and nozzle . . . . . **50.00**

If  $2\frac{1}{2}$ -inch cylinder is wanted add **\$5.00** to price of pump.

### FIELD CROP OR POTATO SPRAYER

A practical four-row adjustable attachment including nozzles, for use with any barrel or power pump. A first-class outfit built for service. **Price Complete \$15.00**

### TAKE CARE OF YOUR SPRAYER

*Always empty remaining solution, and pump through clean water after using. Clean thoroughly before putting away at end of season.*

*Never leave sprayers containing liquid where they will freeze; if cylinders are iron they are apt to crack and if brass they will expand.*

*"Corona  
Dry"*

*is the best  
Arsenate  
of Lead  
for Spraying  
or Dusting*

*See  
Page 91*



## Spray Pumps and Sprayers—Continued

## GOULD'S STANDARD SPRAYER

Powerful, Large Capacity, Durable

The "Standard" Sprayer is made with a  $2\frac{1}{2}$ -inch cylinder. The cylinder is brass-lined, the plunger brass-encased and the valves are brass, making all working parts proof against the spraying mixtures. The plunger is easily repacked without taking the sprayer to pieces, and is unusually large, known as a "differential" plunger, which produces a continuous stream of liquid from the nozzle, similar to a double-action pump. The large standard provides an ample air chamber. The base is made so as to fit either the end or side of a barrel.

Outfit A—Pump and strainer only.....	\$12.50
Outfit B—Pump with agitator and suction pipe.....	14.00
Outfit C—Same as B, with one 15-foot lead of hose and nozzle.	18.25
Outfit D—Same as C, with two 15-foot leads of hose and nozzle.	22.75
Outfit E—Same as D, with 2 bamboo extensions and globe valves	27.50

We supply a barrel and mount sprayer for \$2.50 extra.

## GOULD'S POMONA—Our Leading Barrel Pump

Fig. 1100—"Pomona" Spray Pump has won for itself an enviable reputation. We unhesitatingly offer it as the best orchard spray pump for mounting in a barrel. It has great power and capacity. Briefly stated, other points of superiority are: No leather packings, consequently no hardened and useless valves. All working parts bronze,

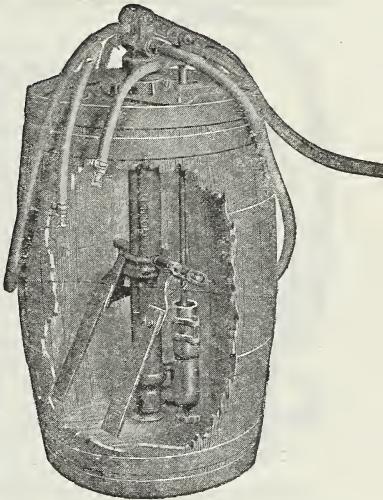
including plunger, gland, valves, valve seats, etc. Plunger is outside packed. Valves are easily accessible. Air chamber is very large and of steel, free from imperfections of cast iron. Lever long and powerful, with adjustable stroke, 3, 4 or 5 inches. The agitator, as shown in the cut, is operated by the stroke of the handle, so whenever any liquid is pumped it is thoroughly agitated. Pump is held securely by small anchor located at bottom of barrel, and by adjustable clamp plate at the top. New plate admits insertion or withdrawal from barrel without removing the agitator.

Outfit A—Pump only..... \$25.00

Outfit B—Pump with  $12\frac{1}{2}$  feet best spray hose, one Vermorel nozzle, one 8-foot bamboo extension with cut-off, complete..... 31.00

Outfit C—Same as Outfit B, except we furnish a good hardwood barrel and mount the outfit..... 33.50

Outfit D—This is our regular Pomona outfit, the best barrel pump outfit that can be bought. It consists of one No. 1100 pump with two  $12\frac{1}{2}$ -foot leads of best spray hose, two Vermorel or Seneca nozzles, two 8-foot bamboo extensions, with cut-off; all in working order and mounted in barrel..... \$39.00



Fruitall  
Fig. 1188

## FRUITALL

Fig. 1188—"Fruitall" Spray Pump is made on the same general lines as our famous "Pomona." It is, however, made lighter and of smaller capacity. All working parts, including plunger, gland, valves, valve seats and strainer are made of brass. Pump is held in barrel by anchor at bottom and adjustable clamp at top, fitting over end of stave. Not made for side of barrel.

Outfit A—Pump only..... \$16.50

Outfit B—Pump with 15 feet of spray hose and one Vermorel nozzle, all complete..... 21.00

Outfit C—Pump mounted in barrel, 15 feet hose, 8-foot bamboo nozzle and cut-off, all complete..... 26.50

NOTE—Extra spray hose at  $17\frac{1}{2}$  cents per foot.

## POWER OUTFITS

We assemble outfits in any manner desired by customer and suggest the right attachments for special purposes. Attaching any standard engine specified. Write us your requirements. We can save you money and guarantee a satisfactory equipment.

## Spray Pumps and Sprayers—Continued

Just right  
for  
City and  
Suburbs



### "IDEAL" SPRAYING OUTFIT

The "Ideal" has been designed for small growers, city and suburban homes, and for all purposes where nothing as large as a barrel or power outfit is needed, and is the right outfit for the poultryman who does much regular spraying or whitewashing.

### Is Light, Compact, Easy to Operate

Tank holds 15 gallons; will not slop or spill. Has 20-inch wheel, 2½-inch tire. Pump has large air chamber. Bronze ball valves; valves are removable, cannot clog. Well made; gives a pressure of 275 pounds, has mechanical agitator and strainer for suction. Outfit complete, 10 feet, ¾-inch hose, 8-foot extension in two pieces, one T-handle shut-off, one "Ideal" nozzle; shipping weight, crated, 130 pounds. **Price \$40.00**



Auto Spray No. 1

### BROWN'S AUTO-SPRAY

The Auto-Spray No. 1 is strong and simple in its working parts. Two pumpings of about fifteen strokes on the plunger will discharge contents under high and constant pressure. The Sprayer is equipped with our patent non-clogging nozzle.

The Solution Tank holds about four gallons and is made of galvanized steel or heavy sheet brass. We recommend brass as it will not corrode with strong solutions and is more lasting.

The brass air pump, made of seamless tubing, is provided with our Cam Locking Device which closes the filler opening airtight with a half turn of the pump handle.

Made without screws or bolts. Easy to take apart.

Valves and washers resist oil and other solutions that attack rubber. Diameter, 7 inches; height, 2 feet; capacity, 3½ gallons; weight, empty, 7 pounds; weight, loaded, 39 pounds; weight, shipping, 15 lbs.

**Price, galvanized with auto pop nozzle, \$6.50, brass, \$9.00**

### ACME COMPRESSED AIR SPRAYER

Made of strong galvanized steel or brass with locked seams tested to 60 pounds air pressure. Brass pump-seat, bronze ball check-valve easily removable, seamless brass cylinder 1½ inches in diameter, solid brass, non-corrosive, self-cleaning nozzle with spiral point, producing whirling spray, an exclusive patented feature producing a finer and better spray than any other pressure sprayer. Capacity 3 gallons, adjustable carrying strap, 3-foot extension.

**Price, brass, \$8.90. Price, galvanized, \$6.25**

### ACME SINGLE POWDER BELLOWS



**Fig. 20.** Excellent for blowing powder on vines and bushes; good size, and works fine. Weight 2 pounds.

**Price \$1.65**



Acme

### HANDY DUST SPRAYER

Made of heavy tin. Resembles a liquid sprayer. One of the most effective dust sprayers made. Will give satisfaction.

**Price 65c**

 **SPRAYING to be effective MUST BE WELL DONE —**  
**Gould Spray Pumps** will give and maintain the necessary pressure to spray right. They are built for lasting service. See page 94



## Spray Pumps and Sprayers—Continued



### PORTLAND SEED CO.'S BUCKET PUMP

This little pump is very convenient for all sorts of small work. Has brass cylinder and valves, two nozzles, for fine or coarse work, and an extra solid stream cap. Weight 6 lbs. Price \$5.00

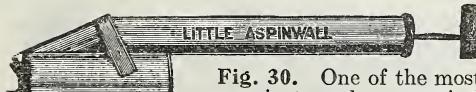
### STANDARD SPRAY PUMP

A powerful direct-action force pump, made entirely of brass—no packing to decay, no iron to rust. Can be used with a bucket tank or knapsack.

Equipped with combination nozzles producing a fine mist—a wide spray 15 to 20 feet, or a solid stream 50 to 60 feet.

**Price, pump only, with 3 nozzles.....\$6.00**

### ASPINWALL SPRAYER



**Fig. 30.** One of the most convenient and economical sprayers for liquid lice-killers, sprays, etc. Weight  $1\frac{1}{4}$  lbs. Price 50c

### ACME SPECIAL GLASS JAR SPRAYER

Jacket and Air chamber made of heavy tin plate—Plunger rod copper Bessemer—Zinc Cap—Double tubes giving large dense spray—Tank Standard Quart Mason Jar. **Price 75c**

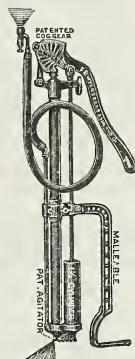
### FEENY DUST GUN



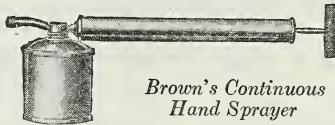
The dust cloud from a MODEL B DUSTER COVERS EVERY SURFACE of the THING THAT IS TO BE DUSTED—TOP, sides under-side and ALL—HUNTS EVERY CRACK AND CREVICE—nothing escapes being treated—IT DOES THE JOB COMPLETELY. **Price \$1.00**

### LEVER HANDLE BUCKET PUMP

The lever handle and large air chamber make this the most powerful bucket pump and the easiest one to operate. All working parts are solid brass with brass ball valves and patent agitator. Fitted with graduating nozzle to throw a fine or coarse spray or a solid stream. Weight 8 lbs. **Price \$7.35**



### BROWN'S CONTINUOUS HAND SPRAYER



*Brown's Continuous  
Hand Sprayer*

This is the best hand sprayer to date; has a compressed air chamber, which makes pressure continuous, has brass nozzle, adjustable to spray, fine or coarse; brass ball valve; simple in construction; light, durable; works easy. Weight  $1\frac{1}{2}$  lbs.

**Price, tin \$1.00; brass tank \$1.50**

### INSECT POWDER GUN

No need to waste any powder if you use this small hand powder blower to apply powder of any kind on poultry, dogs or cats.

**Price, each, small 15c, large 30c, postpaid**

### PLUVIUS LAWN SPRINKLER

Properly constructed, iron stand, upper part all brass. Turns with small force. Weight  $3\frac{1}{2}$  lbs. **Each \$2.00**



*Pluvius*



*Busy*  
A regular water  
filter, runs easy.  
Weight 2 lbs.  
Price \$1.25

*Busy*

## FRUIT TREES DEMAND BEES FOR PROPER POLLINATION

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

OUR AUTUMN CATALOG for Fall 1921, containing a complete list of Nursery Stock, Roses, Perennial Bedding Plants, Iris, Peonies and Shrubbery. Will be mailed on request if you are interested.



## Nozzles, Connections and Hose Supplies

**NON CLOG**—Best hop nozzle; throws a perfect spray; of greater capacity and a great improvement over other nozzles; produces a fog in great volume at a light pressure. Weight 8 oz.  
Price 75c

**Non Clog Angle**, price..... 85c

**VERMOREL NOZZLE** — With degorger, affords a conical discharge. Very popular. Weight 4 ozs.  
Price \$1.00

**SENECA**—Gives a very wide spray; discharge easily graduated. Use this nozzle for white-washing. Weight 5 ozs.  
Price \$1.25

**NOZZLE ELL.** Weight 2 ozs. Price 25c

**HOSE CONNECTION**—For nozzle or extension. Weight  $\frac{1}{4}$  lb.  
Price 35c

**HOSE REDUCER**—For nozzle or extension. Weight 3 ozs.  
Price 45c

**DOUBLE CUT-OFF**—Weight 2 lbs.  
Price \$2.50

**BRASS Y**,  $\frac{1}{4}$ -inch, for nozzle only. Weight  $\frac{1}{4}$  lb.  
Price 50c

**BRASS YERDON'S BANDS**,  $\frac{1}{2}$ -inch.

Each 10c; doz. 75c; postpaid 85c

**CALDWELL BANDS.**

Doz. postpaid,  $\frac{1}{2}$ -inch or  $\frac{3}{4}$ -inch 35c

**BAMBOO EXTENSION**—Has iron pipe inside of bamboo, threaded for nozzles and stopcock. Price:

	Bamboo	Bamboo	
2 to 4 ft.	\$1.15	10 ft. ....	\$2.00
6 ft. ....	1.45	12 ft. ....	2.25
8 ft. ....	1.75		

With Stopcock, add \$1.00

**STOPCOCK.** Weight  $\frac{1}{2}$  lb. Price \$1.00

**SPRAY HOSE COUPLINGS.**  $\frac{2}{3}$ -inch shank for heavy pressure spraying. For  $\frac{1}{2}$  or  $\frac{3}{8}$ -in. hose, price, pair 75c postpaid

**HOSE COUPLINGS**, for garden hose,  $\frac{1}{2}$ -inch or  $\frac{3}{4}$ -inch, complete. Price per pair 40c, postpaid, 45c.

**HOSE WASHERS.**  $\frac{1}{2}$ -inch, rubber. Doz. 10c

### FOR SPRAY PUMPS AND GARDENS

**NOTE**—All our hose, excepting spray, is furnished in 50-foot lengths, and comes coupled ready for use. We will cut any of these hose in 25-foot lengths at an additional cost of 35 cents for couplings. We will cut  $\frac{1}{2}$ -inch Pomona and Monarch Spray Hose in any length desired, at an extra cost of 75 cents for spray couplings in less than 50-foot lengths.

**MONARCH SPRAY HOSE**—Absolutely the best hose we can buy; the rubber is of exceptionally good quality and is very heavy; and we do not hesitate to recommend it to orchardmen, who must have a very high-grade and strong spray hose.  
 $\frac{1}{2}$  inch per foot 27c

**AJAX**—A splendid molded hose, will stand high pressure.  $\frac{3}{8}$  inch only. Price ft. 23c

**POMONA SPRAY HOSE**—Has stood the test of time and hard usage, and has always proved good. Price  $\frac{1}{2}$  inch per ft.  $17\frac{1}{2}$ c

**SUCTION HOSE**—This is an excellent grade of suction hose, and is what we furnish with our regular pump outfit.

Per ft.  $\frac{3}{4}$  in. 40c, 1-in. 60c,  $1\frac{1}{4}$ -in. 70c

**CORRUGATED GARDEN HOSE**—A new process, corrugated rubber hose, that will not kink or break. Especially recommended for florists and gardeners who use hose continuously.

Price per ft.,  $\frac{1}{2}$ -in. 18c,  $\frac{3}{4}$  in. 20c

**ST. HELEN'S GARDEN HOSE**—Where a hose of medium price is wanted it will give excellent satisfaction. Price  $\frac{1}{2}$ -in. per ft.  $12\frac{1}{2}$ c

**COTTON GARDEN HOSE**—5 ply. Price per ft.  $\frac{1}{2}$ -in. 18c,  $\frac{3}{4}$  in. 20c

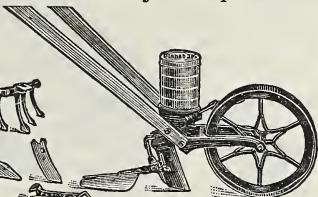
### SPRAY CALENDAR—WHEN TO SPRAY, WHAT TO USE

Insect or Disease	Plant Attacked	What to Spray With	First Spraying
Codling Moth.....	Apple, Pear.....	Arsenate of Lead..... Scalecide, Standard Sulphur Lime Solution.....	Just before calyx cups close.
San Jose Scale.....		Standard Sulphur-Lime Solution.....	When leaves are off the trees.
Oyster Shell Bark Louse.....	Apple, mainly.....	Scalecide, 1 part to 20 parts water.....	When leaves are off the trees.
Peach Moth or Twig Borer.....	Peach.....	Scalecide, 1 part to 40 parts water.....	When the insects appear.
Woolly Aphis.....	Apple.....	Scalecide, 1 part to 40 parts water.....	When the insects appear.
Aphis.....	Roses and plants.....	Aphisicide, Nicoticide.....	Just as soon as the insects appear.
Cabbage Worm.....	Cabbage.....	Bug Death (non-poisonous).....	Before the worms eat into the cabbage.
Cabbage Aphis.....	Cabbage.....	Scalecide, 1 part to 40 parts water.....	When the insects appear.
Slug.....	Pear, Cherry, Peas.....	Slug Shot or Bug Death.....	When the insects appear.
Thrips.....	Roses.....	Thrip Juice, or Aphisicide.....	When the insects appear.
Cottony Scale.....	Pear, Currant.....	Scalecide, 1 part to 40 parts water.....	When the insects become cottony (May).
Scab.....	Apple, Pear.....	Bordeaux.....	Just before blossoms open.
Blackspot Canker.....	Apple.....	Bordeaux, double strength.....	Immediately after leaves fall.
Leaf Curl.....	Peach.....	Standard Sulphur-Lime Solution.....	Before buds burst.
Mildew.....	Gooseberry.....	Potassium Sulphide, 1 oz. to 2 gallons water.....	Just as buds burst.

# Planet Jr. Garden Tools

FOR over forty-five years Planet Jr. Garden Tools have stood the test of world-wide usage, and are recognized in every known country as the highest type of garden implement. In Europe, where labor is cheapest, Planet Jrs. are in constant use. How, then, can you afford to be without them where labor is both high and scarce? We cannot tell you all about Planet Jrs. in this catalog, but will send you the beautiful 72-page Planet Jr. book on request.

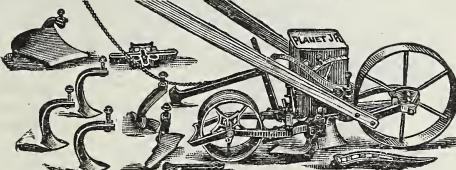
Being general selling agents for Planet Jr. Implements, our stocks are large and orders will have prompt attention. State your requirements. We will advise the correct tool.



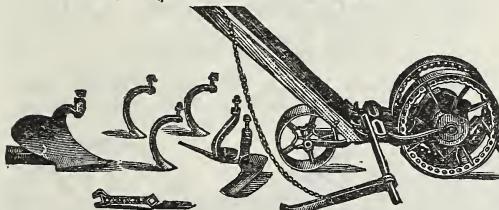
No. 31—Combination Drill, Seeder and Wheel Hoe



No. 6—Combined Planet Jr.



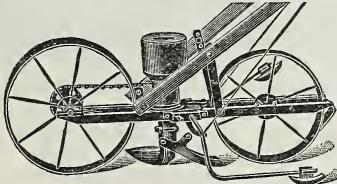
No. 4—Hill and Drill Seeder



No. 1—Planet Jr.

IRON  
KING  
SEED  
DRILL

For Onion  
Growers



A well-made, durable and easy running machine, accurate and reliable, and with careful use will last a lifetime. It will save the price of the machine in sowing a few acres. If you are growing onions you cannot afford to be without one. Sows anything from turnips to peas. Weight packed 85 lbs. Price \$15.00

## No. 31 PLANET JR.

### New Combined Drill Seeder and Wheel Hoe

For the home garden this new Planet Jr. is the ideal tool—a combined seeder and wheel hoe at a price that anyone can afford. The seeder will plant any amount, even a small packet accurately and evenly—any kind of garden seed—from a  $\frac{1}{4}$ -inch to 2 inches deep. The change to a wheel hoe is quickly and easily made—for equipment see illustration. Seeder holds 1 qt. Weight packed 32 lbs. Price \$13.50

## No. 6 PLANET JR.

### Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow

It drops all garden seeds in hills and sows in drills, with the greatest regularity, to any depth, covers, rolls down and marks the next row. As a wheel hoe it hoes, cultivates and plows at every passage up to 16 inches in width. Holds over 2 quarts of seed. Price complete \$22.50. Wt. packed 63 lbs. As Seeder only \$18.50. As a Wheel Hoe only (No. 36) \$10.75

### No. 3 PLANET JR.—Hill and Drill Seeder

A favorite among onion growers, market gardeners and seedsmen. The special force feed is admirable, working equally well whether sowing with an ounce or a full hopper. 15-inch Steel Driving Wheel. Holds 3 quarts of seed. Weight packed 43 lbs. Price \$18.75.

## No. 1 PLANET JR.

### Combined Drill Seeder, Wheel Hoe, Cultivator and Plow

The sowing cylinder is a drum of spring brass set between the driving wheels with a sliding brass band and cam. In drum and band are corresponding diamond shaped discharge openings, quickly adjusted for any kind of seed. Inside the drum, shields cover the openings, and insure regular sowing with a full hopper or a thimbleful. Holds 3 pts. of seed. Wt. packed 47 lbs. Price with tools as shown, \$16.50.

## No. 4 PLANET JR.

### Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow

This tool combines in a single convenient implement a capital hill-dropping seeder, a continuous row-seeder, single wheel hoe cultivator and garden plow. Holds 2 $\frac{1}{2}$  quarts of seed. Price complete \$20.00. Weight 50 lbs. As Seeder only \$15.75.

## No. 25 PLANET JR.

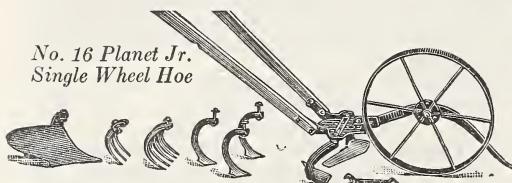
### Combined Hill and Drill Seeder and Double Wheel Hoe, Cultivator and Plow

Valuable for gardeners who have enough acreage for a double-wheel hoe. Combines in a most practical way the No. 4 Drill and No. 12 Double and Single Wheel Hoe. Holds 2 $\frac{1}{2}$  qts. of seed. Weight packed 61 lbs. Price \$23.50.



# Planet Jr. Garden Tools

## PLANET JR. SINGLE WHEEL HOES



No. 16 Planet Jr.  
Single Wheel Hoe

### No. 16 PLANET JR.

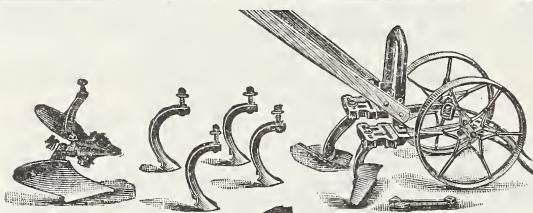
#### Single Wheel Hoe, Cultivator, Rake and Plow

The No. 16 has 15-inch steel wheel, steel frame, one pair of 6-inch hoes, three cultivator teeth, one large garden plow, a 4 and a 7-inch rake, one leaf guard. The plow hoes and cultivator teeth are oil tempered. Is a complete equipment for every requirement. **Weight 26 lbs. Price \$10.50**

## No. 17 PLANET JR. SINGLE WHEEL HOE

You can do more and better hoeing with it in one day than you can do in three days with a hand hoe. The No. 17 has a pair of 6-inch hoes, a plow and a set of cultivator teeth, an outfit sufficient for most garden work.

**Weight 24 lbs. Price \$9.00**



No. 17 Planet Jr.

### No. 12 PLANET JR.

#### Double Wheel Hoe, Cultivator and Plow

This tool is identical with No. 11 Wheel Hoe, except that it has one pair plows, one pair hoes and two pair cultivator teeth only, and is sold at a correspondingly less price. **Weight 33 lbs. Price \$13.50.**

## PLANET JR. DOUBLE WHEEL HOES

### No. 11. Double Wheel Hoe, Cultivator, Plow and Rake.

The No. 11 is considered the best combined Double and Single Wheel Hoe made, having the largest assortment of useful tools and the frame being adjustable for any depth work. The attachments and their position can be changed in a few seconds. All edge tools are oil tempered—can be used in narrow rows as a single wheel hoe—as a double wheel hoe the arch will straddle plants 20 inches high. **Weight packed 39 lbs. Price with Attachments as in cut, \$16.25.**

## STANDARD No. 20 GARDEN PLOW AND CULTIVATOR



Not equaled by any other Cultivator. 24-inch wheel, without seeder. **Price \$5.25**

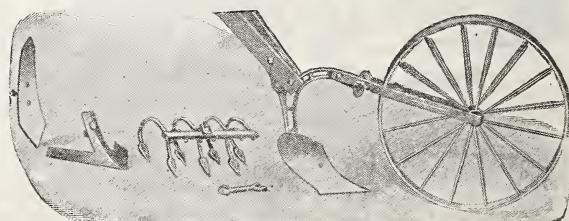
The above cut shows the Standard No. 20 with the Midget Drill Seeder attached. This seeder can be attached to other makes of cultivators of this style.

Midget Seeder only **\$4.25.**

Seeder and Cultivator **\$9.25.**

## No. 7 GARDEN PLOW AND CULTIVATOR

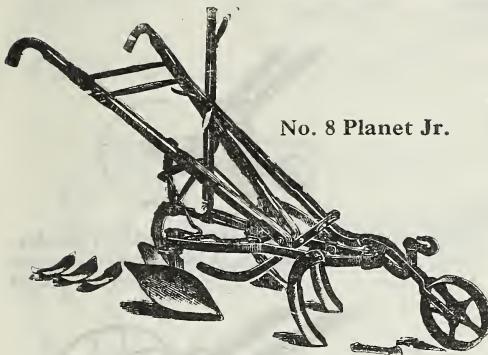
Five Tools: Plow, Rake, Weeder and Double Diamond Point Markers. Has 24-inch Wheel.



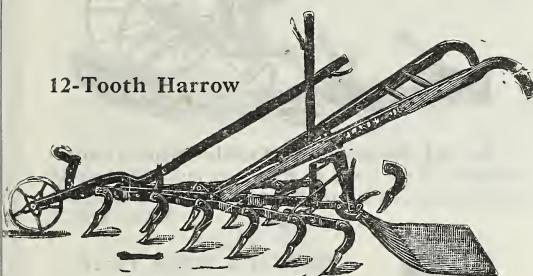
No. 7. This has an 18-inch wheel and handles adjustable to proper working height. The special adjustment for depth gives easy control. **Weight complete 18 pounds. Price \$5.75**

No. 6. The Swing Frame and extended curved handles insure easy running and a steady draft. The tools are sharpened and polished and will scour in use. 24-inch wheel. Similar to Standard No. 20. **Weight packed 24 pounds. Price \$5.25**

# Planet Jr. Garden Tools



No. 8 Planet Jr.



12-Tooth Harrow

All prices on this page are F. O. B.  
Portland, Ore.

We have discontinued the handling of Planet Jr. Horse Tools, and therefore are offering the above at a very substantial reduction from present Factory price. Should you be contemplating the purchase of such tools you certainly cannot afford to pass this up.

We only have a limited number of these machines and no orders will be filled after present stock is exhausted.

Place your order early. They will not last long.

## GLASS EXHIBITION JARS

THESE are the standard types and sizes best suited to display of agricultural products, such as grains, nuts, fruits or any material that can be displayed or preserved in a glass jar of this kind.

Fair Boards, Granges, Schools or Civic Organizations interested in preserving samples and specimens for exhibition should write for special prices.

**PRICES:** Three sizes, 11-inch 35c, \$3.50 dozen; 14-inch 65c, \$7.00 dozen; 17-inch \$1.00, \$11.00 dozen.

We have only a limited number of the following tools, and offer at reduced prices until sold:

**No. 4.** Plain five-tooth expanding—one-horse Cultivator with wheel. Weight 56 lbs. Factory price \$21.00. Our Special at \$12.00

### No. 8 PLANET JR. Horse Hoe and Cultivator

In general use throughout the civilized world. Is strongly built to withstand incredible strain, yet it is light and easy to handle. It opens and closes furrows, hoes right up to the plants without danger of injuring, throws dirt to or from the row and throws back from center again. **With Steel Wheel.** Weight packed 83 lbs. Our Special at \$17.50

### No. 9 PLANET JR. Horse Hoe and Cultivator with Steel Wheel

This admirable tool has a plain wheel instead of lever wheel. It has the high frame, patented hollow steel standard, patent lever, Star wheel, patent lever expander, and hollow steel wheel arms. Weight packed 70 lbs. Our Special at \$15.00.

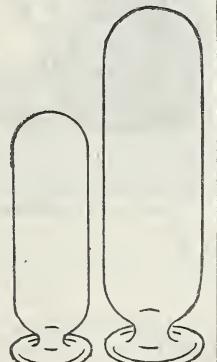
**No. 10.** Combination Farm and Garden Horse Hoe, Cultivator, Furrower, Plow and Vine Turner. Weight 112 lbs. Factory price \$33.00. Our Special at \$15.00

**Planet Jr. Grass Edgers** runs on the walk or grass equally good on curved or straight work. Weight 26 lbs. Our Special at \$5.00

### No. 90 PLANET JR. 12-Tooth Harrow, Cultivator and Pulverizer

Works deep or shallow, coming up close to row without injuring plants, cuts out all the weeds, stirs and mingles the soil. Width, adjustable, 12 to 32 inches. A special favorite with strawberry growers, market gardeners and truckers. **Without Steel Wheel or Pulverizer.** Our Special at \$10.00

**No. 101 PLAIN CULTIVATOR**  
Our Special at \$10.00

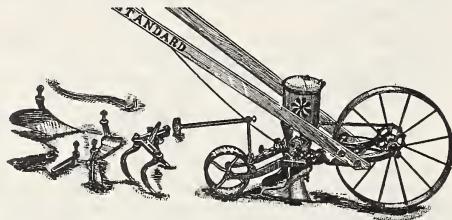




## STANDARD GARDEN TOOLS

THE quality of implements bearing the "Standard" trade-mark will always be so high as to merit your complete confidence. They have become widely and favorably known for superior design, perfect finish and great efficiency in operation.

We recommend the standard line to our customers.



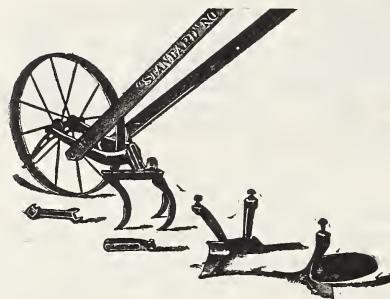
**No. 12 Hill and Drill Seeder and Single Cultivator.** With tools as shown. Plants in hills from 4 inches to 2 feet apart, or continuous row. Instantly changed from hill to drill.

Price \$16.50



**No. 14 Single Wheel Hill and Drill Seeder.** Same as No. 12 except that it has no cultivating attachments.

Price \$12.95



**No. 22 Single Wheel Cultivator.** With tools as shown. Same as No. 12 except that it has no seeder.

Price \$7.75



**No. 13 Single and Double Wheel Cultivator.** With tools as shown in cut. Wheels 16 inches high with an adjustable gauge for depth.

Price \$10.75

### REDDICK MOLE TRAP

No Mole Can Pass Under It and Live

These traps are strong and durable and worth the price to anyone troubled by moles.



Full directions with each trap.  
(See Cut)  
Weight 3 lbs.  
Price \$1.25

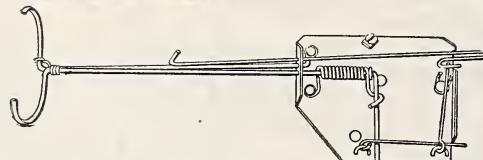
Reddick  
Mole Trap



*Out O'Sight Mole Trap*

**OUT O'SIGHT MOLE TRAP**—One of the best. Sure to "get them". Weight 2 lbs.

Price \$1.25



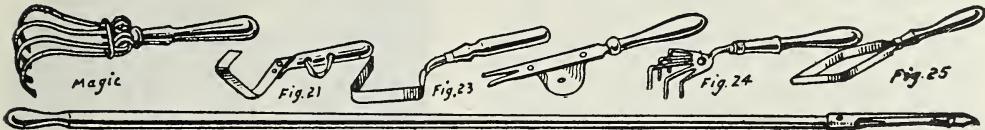
**CINCH GOPHER TRAP**—Fits the hole, a sure killer and the most satisfactory trap. Weight 1 lb.

Each 85c

**GOPHER TRAP**—Easy Set—Never fails. Weight 1 lb.

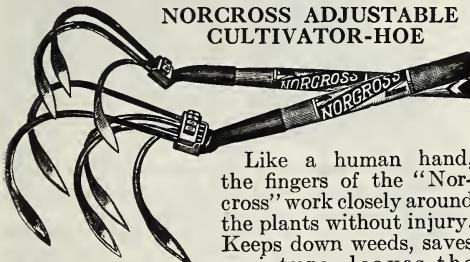
Price, each, 25c

## Garden Tools, Implements, Etc.—Continued



Hall's Dandelion Puller

## NORCROSS ADJUSTABLE CULTIVATOR-HOE



Like a human hand, the fingers of the "Nor-cross" work closely around the plants without injury. Keeps down weeds, saves moisture, leaves the ground level.

**FIVE PRONG** for regular garden work; 4-ft handle, weight 4 lbs. **Price \$1.25**

**THREE PRONG** lighter in weight, for narrow rows and close work, 4-ft. handle, weight 3 lbs. **Price \$1.00**



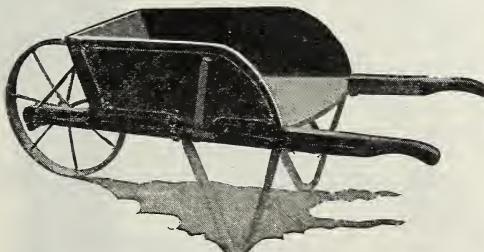
## GRASS HOOKS or SICKLES

*These are the latest style and shape.*

**Village Blacksmith**—Hand forged, weight 1 lb. **Price 75c**

## GRASS SHEARS

**Village Blacksmith**—No. V51. 1 lb. **\$1.25**



## AMERICAN GARDEN WHEELBARROW

20-inch steel wheel with 2-inch oval tire. Solid steel axle and malleable axle boxes. Oval pressed steel legs. Vermilion finish and varnished. Light but rigid—built to last. Shipped K. D.

**No. 1**—Size of deck 17 x 22 x 29. **Price \$7.50**

## HAND WEEDERS

**Magic Weeders**—Made of best quality hard steel wire, an ideal tool for fining the surface soil. We offer three sizes, illustrated above: **Magic No. A**, 3 tines, short handle, weight 1 lb. **Price 25c**

**Fig. 21.** Lang's. Weight 1 lb. **Price 25c**

**Fig. 23.** Hazeltine's. Weight 1 lb. **Price 35c**

**Fig. 24.** Excelsior. Weight 1 lb. **Price 25c**

**Fig. 25.** Noyes'. Weight 1 lb. **Price 30c**

**Hall's Dandelion Puller** (see cut)—Pulls the root without tearing up the lawn; long handle; polished steel blade. Weight 2 lbs. **Price 60c**

## GARDEN TROWELS



Maynard

Don't class these tools with the cheap stock offered by the department stores.

**Maynard Steel Shank**—Extra heavy.

**Price \$1.00**

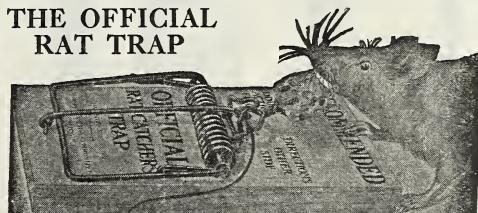
**No. 85**—New style long handle. Weight 1 lb. **Price 50c**

**No. 217**—Six inch; steel transplanting trowel. Weight 1 lb. **Price 30c**

**No. 217A**—Transplanting hoe trowel, used by gardeners in setting out plants. Weight 1 lb. **Price 50c**

**No. 216**—Ladies' flower trowel. Weight 1 lb. **Price 15c**

## THE OFFICIAL RAT TRAP



The Government selected this trap from among thousands of models submitted. Spring releases with either upward or downward pressure—**Rats Nibble Upward**. *The "Official" always gets them.*

**Official Rat Trap**, weight 1 lb. **Each 20c**

**Official Mouse Trap**, weight 4 oz. **Each 5c**

# The Clipper Grain and Seed Cleaner

Used by all Agricultural Colleges and by the U. S. Department of Agriculture

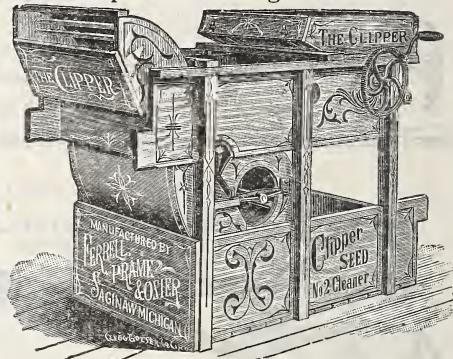
No work done on the farm brings such large returns as thoroughly preparing the grain and seed by recleaning and grading for planting. This insures an even stand of strong, healthy plants, and a larger yield of a higher grade. The "Clipper" cleaner is especially adapted to this kind of work on account of its ability to separate the small, also the light, dead seed or grain from the perfect seed or grain.

Other mills depend entirely upon screens for this work, and with unsatisfactory results. The "Clipper" screens all straw and foreign matter from the grain before it enters the air shaft, and the "Vertical Blast" does the rest.

Screens are so arranged as to be in plain view and of easy access to the operator while machine is in operation, and a set of ten being furnished with either the No. 1B or No. 2B. These are ample for general work—but special screens can be furnished for any cleaning operation.

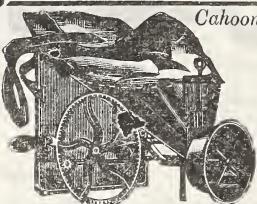
The "Clipper" is a first-class, inexpensive and durable mill for general use.

Prices: No. 1B—Capacity 40 bu. wheat or 12 bu. of clover per hour. Weight packed, 200 lbs. \$47.00  
No. 2B—Capacity 20 bu. clover seed per hour. Weight, packed 250 lbs. .... 55.00



Guaranteed to do the most perfect work of any Hand Seed Cleaner manufactured

We have supplied "Clipper Cleaners" to the mills, dealers and prominent growers of the Northwest. If you grow grain or seed and do not own a "Clipper," you are losing many times its cost every year. Let us send you The "Clipper" Catalog of hand and power cleaners. All sizes and prices. A "Clipper" will improve the quality and increase the yield of grain.



Cahoon

## Broadcast Seed Sowers

**CAHOON**—The standard broadcast seed sower of the world, made of steel, iron and brass and with ordinary care will last a lifetime. This is the most popular and best built seed sower; has a force feed and does excellent work. Instructions with each machine. Weight 9 lbs. Price \$5.00

**TIN HORN SEEDER**—Adjustable. A good serviceable seeder at a very low price. Weight 1 pound. Each \$1.00

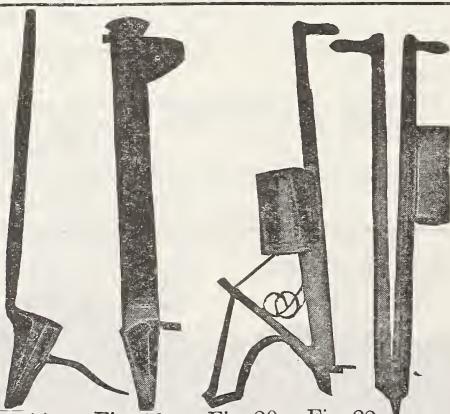


Fig. 14 Fig. 16 Fig. 20 Fig. 22  
CORN PLANTERS

**ACME AUTOMATIC**—One Hand (Fig. 20)—Puts the right number of kernels just where you want them and at the proper depth, requiring only one hand, either right or left. Weight, packed, 6 lbs. Price \$3.00

**ACME**—(Fig. 22)—A two-handed planter. Light, well made, and especially adapted to heavy, cloudy or stony soils. Adjustable—from popcorn to large kidney beans. Weight, packed, 4 lbs. Price \$1.50

## MASTER'S PLANT SETTER

With a "Masters" you can set, water and fertilize 10,000 plants a day and do better work than if set by hand. Works as fast as you walk. Sets cabbage, kale, celery, tomatoes and vegetables plants of all kinds. Weight, packed, 5 lbs. Price \$6.00

## POTATO PLANTERS

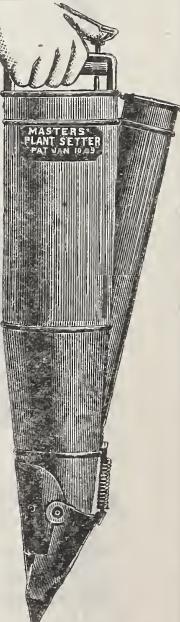
**PEERLESS**—Tubular (Fig. 16)—This light tubular planter locks itself as it is lifted out of the ground and the next potato may be dropped in at once. Opens automatically by forward movement. Weight, pckd. 5 lbs. Price \$2.00

**PINGREE or ACME**—(Fig. 14)—Similar in action to the tubular. You lift the planter up to drop in the potato. Weight, packed, 4 lbs. Price \$1.35

## CORN KNIVES

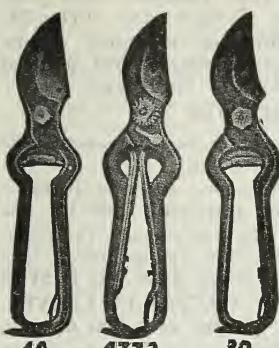
**NIAGARA**—Broad tapered blade. Length including handle 22½ in., weight, packed, 2 lbs. Price 85c

**VILLAGE BLACKSMITH**—Straight blade 22½ in., including handle. Wt., pckd., 2 lbs. Price \$1.00



# PRUNING TOOLS, ETC.

NOTE—Compare Numbers on Cut to Those in Descriptions



PRUNING  
SHEARS



## NEW BASTIAN PRUNER

Makes a Clean, Sharp cut

The powerful lever of the new Bastian Pruner enables you to do the same work in half the time and with half the labor that would be required with old-style Pruners.

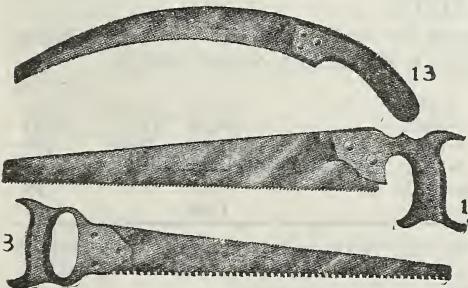
Blades are of finished Damascus steel, very strong, and hold their cutting edge. Simple in construction, light, strong and durable. We recommend the Bastian to all fruit growers.

**Prices F. O. B. Portland**  
6-ft... \$1.50 12-ft... \$2.25  
8-ft... 1.75 14-ft... 2.50  
10-ft... 2.00 16-ft... 2.75

## PRUNING SAWS

No. 13—California Pruner (Crescent). Finest silver steel. 14-inch Each \$1.25  
No. 1—Pruning Saw. Made of genuine silver steel. 16-inch, each \$1.35; 18-inch, Each \$1.50  
No. 3—Duplex Pruner. 16-inch, 18-inch, each \$1.50.

18-inch, each \$1.75.



## GRAFTING WAX

LION BRAND— $\frac{1}{4}$  lb. 20c;  $\frac{1}{2}$  lb. 30c; 1 lb. 60c  
Add postage at zone rate.

No. 4773—9-inch; full polish, with double brass springs; best American make. Weight 1 lb. Price \$2.35

No. 40—9-inch; bright finished, polished blade, spiral steel spring; made for hard service. Weight 1 lb. Price \$1.75

No. 41—Same as No. 40, except with ratchet nut. Weight, 1 lb. Price \$1.90

No. 30—7-inch, black finish; polished blade; very good. Weight 1 lb. Price \$1.25

No. 31—Same as No. 30, only 9-inch ratchet nut; an American make. Wt. 1 lb. Price \$1.40

No. 50—Five and a half-inch; nickel-plated; small, but of best material; fine for ladies. Weight 1 lb. Price \$1.25

Levins Shear No. 23. Price 1.00  
Grape or fruit thinning. Price .65

## BUDGING KNIVES

Prices Postpaid

No. 13—Plain wood handle, stationary blade. Price 50c

## GRAFTING KNIVES

No. 6—Plain wood handle, stationary blade. Price 60c

## PRUNING KNIVES

No. 2—Plain wood handle, stationary blade. Price 70c

No. 4—Polished wood handle. Price 90c

## BRANCH SHEARS

No. 126—26-inch. Weight 5 lbs. Price \$2.45  
Fig. 35—Standard pattern. Satisfactory for light work; a good value.

24-inch handle, weight  $2\frac{1}{2}$  lbs. \$1.60

Your Roses and Trees should be properly pruned and you should have good tools to use.

## BARNETT FRUIT PICKING PAIL



Built for Service  
Galvanized Iron, with strong canvas open bottom.



A great labor saver. Wt.  $3\frac{1}{4}$  lbs. Price each, \$2.25

## NORTHWEST FRUIT PICKING LADDER

6, 8, 10 and 12 ft. lengths. Strong light and serviceable. Price 50c per foot.

**OUR AUTUMN CATALOG** for Fall 1921, containing a complete list of Nursery Stock, Roses, Perennial Bedding Plants, Iris, Peonies and Shrubbery. Will be mailed on request if you are interested.



## MISCELLANEOUS FLORISTS' SUPPLIES

### FOR FLORISTS AND NURSERYMEN

PLANT STAKES—Round cedar, painted green, 3 ft. \$1.00 doz.—4 ft. \$1.60—5 ft. \$2.00—6 ft. \$3.00.

VITAPLASTIC—Glazing Compound—The best, most dependable glazing material. Never hardens or cracks. Write for circular. Price, gal. \$2.50—5 gals. \$11.25—40 gals. \$80.00.

VITAPLASTIC MACHINE \$7.50

### WOODEN POT LABELS

4-inch. Plain, per 100 20c—1,000 \$1.30

Painted, per 1,000, wt pckd 4 lbs, \$1.75

5-inch. Plain, per 100 25c—1,000 \$1.90

Painted, per 1,000, wt pckd 6 lbs, \$2.50

6-inch. Plain, per 100 20c—1,000 \$2.40

Painted, per 1,000, wt pckd 9 lbs, \$3.00

WIRED TOOTH PICKS—2½ inches long.

WIRED MATCH STICKS—4 inches long.

WIRED MATCH STICKS—6 inches long.

NICO FUME LIQUID—The best fumigant and spray for greenhouse work. Kills aphis, red spider, mealy bug, thrip, etc. Write for prices.

### TREE LABELS

Painted copper wire. Per 100 35c—1,000 \$2.55  
Unpainted copper wire. Weight pckd., 4 lbs. per 1,000.

Per 100 30c—1,000 \$2.10

PENCILS—Indelible, for marking. Each 15c

WIRED HANGING BASKETS—10 in.—25c  
—12 in. 30c—14 in. 40c, Special quantity  
prices.

GLAZING POINTS—Peerless—Best point made. 1,000 in box. Weight 2 lbs. Price 75c.

Our line of Chiffons, Ribbons, Cords, Wire Designs, Foil, Baskets and general Florist Supplies is very complete.

### RAFFIA

In ordering Raffia by mail, be sure to add postage on 1 lb. or more.

RAFFIA—Natural color. Price ¼ lb. 20c—postpaid, 25c; not postpaid, per lb. 35c

COLORED RAFFIA—Any shade, the popular colors being red, yellow, orange, black, blue and purple. Per pkg postp'd 20c, per lb \$1.25

Headquarters for MAGNOLIA LEAVES. Write for prices. We can save you money.

CYCAS LEAVES—Sizes 8 x 12, 12 x 16, 16 x 20, 20 x 24.

WIRE—Cut and uncut. Sizes 18, 20, 22, 24. Cut in 12 lb. boxes, and uncut in 12 lb. coils.

WIRE DESIGNS—For Florists, Anchors, Bases, Broken Columns, Broken Wheel, Crescent, Crescent Wreaths, Crosses, Odd-Fellows, Pillows, Shower Wreaths, Shields, Stars, Triangles, Wreaths flat. Tell us what you want and we will supply it. Write us regarding your needs.

Write us for your requirements in the FLORIST Line.

### CUT FLOWER BOXES

We can supply Cut Flower Boxes, in the following sizes. Florists write for prices

3 x18x5	3½x30x5	5x36x8	8x16x16
3 x21x5	4 x24x8	6x40x10	8x20x20
3½x24x5	5 x28x8	6x36x14	8x24x24

### BULBS IN SEASON

FLORISTS and GROWERS. We have direct connections with the best growers in Holland and Japan, and import in car lots and make special prices where orders are placed in advance, and it will be to your advantage to take this up with us before placing your order.

Orders should be given in May or early June to insure early delivery.

### FLOWER POTS

Florists, nurserymen and growers should send list of requirements for Special Prices  
FLOWER, FERN, AZALEA POTS OR BULB PANS ALL SAME PRICE

Size	Saucers			Size	Saucers		
	Each	Dozen	Each		Each	Dozen	Each
2-inch.....	\$0.03	\$0.20	....	7-inch.....	\$0.20	\$1.75	\$0.07
3-inch.....	.04	.35	....	8-inch.....	.25	2.50	.07
4-inch.....	.06	.50	\$0.04	9-inch.....	.40	4.25	.15
5-inch.....	.10	.85	.04	10-inch.....	.65	....	.18
6-inch.....	.15	1.25	.06	12-inch.....	1.00	....	.25

NOTE—At above prices we will pack the pots carefully, but buyer must pay freight or express charges. We buy in carload lots and the wholesale trade, florists and nurserymen are requested to send for special prices, stating number wanted. No pots mailed.

### Porch Boxes, Japanese Tubs, Hanging Baskets, Lawn Vases, Potted Plants

Specimen Ferns, Palms and Ornamental Plants furnished to order. We can assist you in securing special decorative effects for House or Garden.

Tell Us Your Plans—WE CAN SAVE YOU MONEY

# BEE SUPPLIES

IF YOU live in the suburbs, keep poultry, or live on a farm, keep a few stands of bees, they will amply repay you for the little attention they require, and will often return you a splendid profit.

IF YOU OWN AN ORCHARD then you must of necessity have bees if you would secure the largest crops of most salable fruit, for proper pollination is essential to best development. A most interesting series of experiments on the Pollination of the Apple, conducted by the Oregon Agricultural College, proves the total inadequacy of all pollinating agents, with the single exception of Bees. The wind, which at first thought would seem dependable, is a total failure outside of the radius of a few feet, even under most favorable conditions, and very uncertain at any distance. Some few varieties are self-fertilizing, but these are vastly improved by crossing the pollen with other sorts, and the busy honey bee seems to be our sole reliance for effective work. Fortunately bees are easily obtained, are very little trouble, and an orchard and apiary make an ideal combination from a business standpoint. This subject is well worthy the careful investigation of all orchardists, and we would be pleased to hear from those interested.

WE ARE THE PIONEERS in the Bee Supply business in the Northwest, are thoroughly familiar with local conditions and requirements and if you are new to the business or the country we can be of much help in saving you any unnecessary outlay, work or loss of time and can start you on the right road to success. Stocks are large and complete and we can fill any size order on short notice and will give the small order just as careful attention as the larger one.

WESTERN PINE AND CEDAR HIVES made to our order in standard sizes and designs; of first class material and workmanship, are very popular with local beekeepers. Our Western lumber is satisfactory and lasting and we recommend them as being economical and serviceable.

The magnitude of our business and its steady growth is a guarantee of service and quality, and we look forward to the pleasure of serving you.

PORTLAND SEED COMPANY

## HOW TO ORDER

**WHEN TO ORDER.** Don't wait until your Bees have swarmed before you order your hives or supplies. Send in your orders early and be on the safe side.

**PREPAY STATIONS.** When you send in orders to go by freight or express, be sure that you add money enough to pay freight charges if your station is a prepay, which is always the case where there is no regular agent.

**PRICES**—All prices are subject to change without notice.

**BEE SUPPLIES BY MAIL.** The prices named in this catalog are **not prepaid unless so stated**. Many of the lighter supplies can be mailed, when it is necessary, but we believe express or freight the most satisfactory way of sending.

**LARGE ORDERS.** Perhaps you want only a hive or two and a few supplies; it may be your neighbors are in the same fix. This is your chance to make up a club order and secure your hives or supplies cheaper.

## CAUTION AGAINST SPRAYING WHEN TREES ARE IN FULL BLOOM

THE best authorities advise against spraying until blossoms are ripe and falling, as by this time pollination is complete and spraying will accomplish its purpose from this time until calyx closes.

Spraying when trees are in bloom may destroy bees and other insects necessary to pollinate and these natural agents should not be interfered with as their work of transferring the pollen insures bountiful crops and shapely fruit.

This is generally understood by the best informed orchardists and growers and in many states there are laws against spraying when fruit is in flower.

Damage to fruit is often unjustly charged to bees for they cannot pierce the skin of even the softest fruits, but where there is a scarcity of blossoms, they will often work on fruit that has been bruised, damaged by birds or cracked by the weather, but are unable to destroy sound fruit of any variety.

### Sow Buckwheat for Fall Bee Pasturage

To insure plenty of winter stores for your bees, sow buckwheat any time in the late spring or early summer. It will bloom in about sixty days from planting and give an abundance of nectar much sought after by the bees. The honey is dark but makes good winter stores.



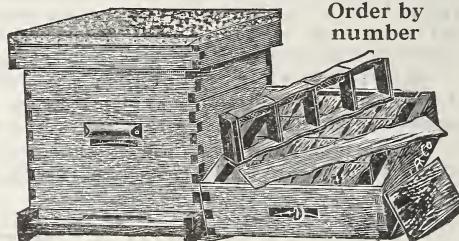
## Portland Seed Company's Hive Combinations

Our Western hives, either Pine or Cedar, are standard sizes and well made of select material dovetailed. When ordering note the different figures. Fig. 1 means complete with sections and foundation for starter. Fig. 2 means without sections and foundation starter. Story and a half hives are preferred by many, consisting of brood chamber, brood frames, excelsior cover, reversible bottom board, super for sections, with section holders and separators. Single story hives are equipped with brood frames, covers and bottom boards. Supers used for sections or for extracting with half Hoffman frames or hive bodies with full depth frames require no extra cover or bottom boards. In complete or Fig. 1 hives, we send one sheet of foundation as starter for brood frames and one sheet of super foundation for starter in sections. If full sheets are wanted, these must be ordered by the pound. Hives and supers are packed and shipped in crates of 5 K. D. and no less than 5 will be shipped K. D. except at nailed price, the added cost being for breaking crates and repacking.

**NOTE**—Original crates of five hives are too large for Parcel Post. Nailed hives and supers are sold at increased price to cover cost of nailing and these take a higher freight rate than crates K. D. All western supers for sections take the regular size  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$  sections.

### Portland Seed Company's Dovetailed Western Cedar Hives

These cedar hives are made especially for our trade. In construction they are the same as our pine hives, the only difference being that they are made of a superior quality of cedar, the best and most lasting wood for our Western climate. The sections used in the supers are the regular No. 1 Eastern stock. Price and quality considered, they are splendid values.



P. S. Co.'s Fig. 1 for  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$  Sections

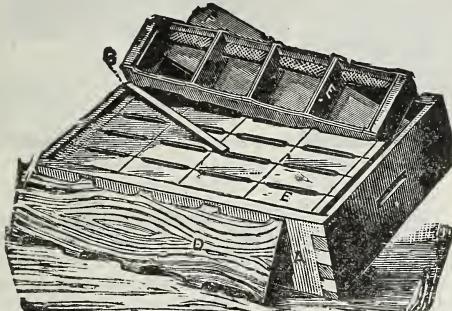
	Each	5	Wt.	Each	5	Wt.	
	Nailed	K. D.	of 5	Nailed	K. D.	of 5	
8 fr. Fig. 1 1½ story.....	\$3.75	\$15.00	140	10 fr. Fig. 1 1½ Story.....	\$4.05	\$16.50	178
8 fr. Fig. 1 Single story No Super.....	2.50	9.50	103	10 fr. Fig. 1 Single story no Super.....	2.70	10.25	128
8 fr. Fig. 2 With Super No Sections or starter.....	3.10	11.75	135	10 fr. Fig. 2 with Super no Sections.....	3.35	13.00	163
8 fr. Fig. 2 Single Story No Super.....	2.40	9.00	100	10 fr. Fig. 2 Single story no Super.....	2.60	10.00	127
8 fr. Hive Body empty.....	.90	3.75	35	10 fr. Hive body empty.....	1.00	4.25	
8 fr. Hive Body and brood frames.....	1.25	5.25		10 fr. Hive Body and brood frames.....	1.35	5.75	
8 fr. Covers.....	.65	2.75		10 fr. Covers.....	.75	3.00	
8 fr. Bottom Boards.....	.50	2.00		10 fr. Bottom Boards.....	.65	2.50	

### Portland Seed Company's Dovetailed Western Pine Hives

Are of standard size and well and carefully made of first-class lumber. The inside fixtures are just the same as in our Cedar hives and the sections supplied are of the best grade of white Eastern basswood.

	Each	5	Wt.	Each	5	Wt.	
	Nailed	K. D.	of 5	Nailed	K. D.	of 5	
8 fr. Complete Fig. 1 1½ Story.....	\$3.75	\$15.00	140	10 fr. Complete Fig. 1 1½ Story.....	\$4.05	\$16.50	178
8 fr. Fig. 1 no Super.....	2.50	9.50	103	10 fr. Fig. 1 no Super.....	2.70	10.25	128
8 fr. Fig. 2 with Super no Starter or Sections.....	3.10	11.75	135	10 fr. Fig. 2 with Super no Sections.....	3.35	13.00	163
8 fr. Fig. 2 no Super.....	2.40	9.00	100	10 fr. Fig. 2 no Super.....	2.60	10.00	127
8 fr. Hive body empty.....	.90	3.75	35	10 fr. Hive body empty.....	1.00	4.25	45
8 fr. Hive body and brood frames.....	1.25	5.25	40	10 fr. Hive body and brood frames.....	1.35	5.75	50

# Portland Seed Company's Dovetailed Supers



Super, Designated as Fig. 1—Complete

Western Pine	Each	5	5	Nailed K.D. Weight
Fig. 1 8 fr. Complete.....	\$1.35	\$6.00	40 lbs.	
“ 2 8 fr. Less Sec. & Fdn	.85	3.50		
“ 0 8 fr. Empty.....	.55	2.00	22 lbs.	
“ 1 10 fr. Complete.....	1.55	7.00	45 lbs.	
“ 2 10 fr. Less Sec. & Fdn	.95	4.00	38 lbs.	
“ 0 10 fr. Empty.....	.60	2.25	25 lbs.	

This is one of the best Supers sold for the use of  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$  sections having beeways. We use wood separators (or slat separators), beeway sections, and section holders having bottom bars scored out to correspond with the beeways in the sections.

	Each	5	5	Nailed K.D. Weight
Cedar				
Fig. 1 8 fr. Complete.....	\$1.35	\$6.00	35 lbs.	
“ 2 8 fr. Less Sec. & Fdn	.85	3.50	30 lbs.	
“ 0 8 fr. Empty.....	.55	2.00	20 lbs.	
“ 1 10 fr. Complete.....	1.55	7.00	40 lbs.	
“ 2 10 fr. Less Sec. & Fdn	.95	4.00	35 lbs.	
“ 0 10 fr. Empty.....	.60	2.25	22 lbs.	

Extracting supers are deeper and take the Half-Hoffman shallow extracting frames. Cedar or Western Pine.

8 fr. Extracting.....	1.30	5.25	40 lbs.
10 fr. Extracting.....	1.40	5.75	45 lbs.

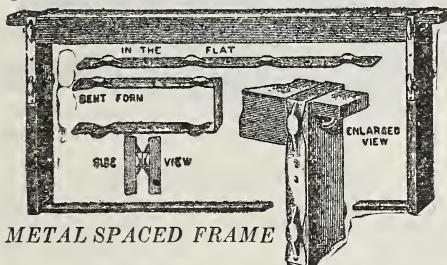
## Hoffman Brood Frames

The Hoffman Improved Foundation Fastening Frames (see cut) are the latest, most satisfactory brood frames. The top bar is made with a beveled strip, which holds the foundation absolutely in place, perfectly straight and exactly in center of top bar. Any one can put foundation in these new frames very rapidly.

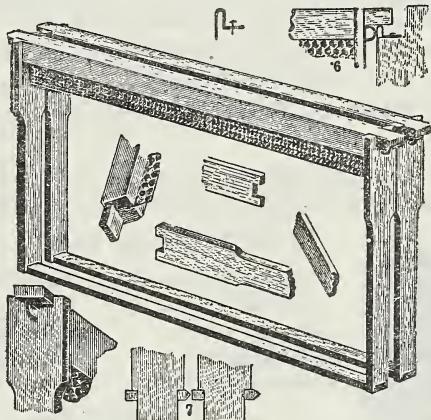
### PRICE OF HOFFMAN FRAMES

	Wt. per 10	Per 10	Per 100
Improved F.F. Western	$4\frac{1}{2}$ lbs.	\$0.75	\$6.00
Half Hoffman Western	$2\frac{1}{2}$ lbs.	.75	6.00

The Half Hoffman Frame is used in the ideal super.



METAL SPACED FRAME



Hoffman Frames—Showing Foundation Starter

### NEW METAL SPACED FRAME

Recommended where there is much propolis. Spacing is accurate and frames handle easily. Price per 10, \$1.90—100, \$15.00. Wt. per 10, 5 lbs. Metal Spacers Only—Per 100 Wt.  $1\frac{3}{4}$  lbs. \$1.00



$4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ , generally used and always sent unless otherwise ordered.

Portland Seed Co.'s No. 1 per 100 \$1.90—per 500 \$7.75—per 1000 \$15.00.

Portland Seed Co.'s No. 2 per 100 \$1.85—per 500 \$7.50—per 1000 \$14.50.

## Section Holders

Six section holders with separators, one follower and springs are put in each super, and each section holder holds four one-pound honey boxes. The bottom strip is  $\frac{1}{4}$ -inch thick and is cut out to fit insets of sections.

Western,  $1\frac{1}{8} \times 1\frac{1}{8}$  inches, slotted. Weight 20 lbs. per 100. Each 5c—per 100 \$4.50

Blocks— $1\frac{1}{8}$  Western. Per 100 \$1.25

Bottoms only— $1\frac{1}{8}$  in. wide, slotted. Western.

Wt. 11 lbs. per 100. Each 3c—per 100 \$2.50

## SEPARATORS

One separator should always be placed between each two section holders so that the bees will build the honey comb even in each section (see illustration of supers).

Western (Veneer) 8 lbs. per C; per 100 90c

Fence Separators, Danz., M., weight 16 lbs. per 100. Per 10 70c, per 100 \$6.50

## HONEY SHIPPING CASES

These have a glass front, and corrugated, non-dripping packing, which protects against breakage, and are designed for marketing honey. If you expect to get the best market price, you must put your honey up in nice cases.

## PRICE LIST OF SHIPPING CASES

	Nailed	Each
24-lb. Eastern $4\frac{1}{4} \times 1\frac{1}{8}$ Sections	.....	55c
24-lb. for $3\frac{5}{8} \times 5$ Sections—Ideal	.....	40c

## No. 30 TINNED WIRE

$\frac{3}{4}$ -ounce spools.....	Each 10c
$\frac{1}{4}$ -pound spools.....	Each 25c
$\frac{1}{2}$ -pound spools.....	Each 40c
1-pound spools.....	Each 60c
5-pound coils.....	Each \$2.50

Add postage if ordered mailed.

## T-TINS AND RABBETS

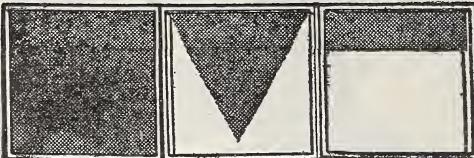
	Per 10	Per 100
Tin Rabbets, 12-inch.....	20c	\$1.90
14-inch.....	25c	2.40
T-Tins, 13-inch.....	25c	2.35
15-inch.....	25c	2.45
Flat Tins, 13-inch.....	20c	1.40
15-inch.....	20c	1.45

## Van Deusen Hive Clamps

Very convenient for fastening bottom board to hives and various other uses. They come in pairs.

Without screws per pair 10c, 10 pairs 90c, add 3c per pair postage for single pairs.

## Comb Foundation



Full Sheet, Triangular and Quarter Sheet  
Method of Using Foundation

There is little question but that it pays to use foundation in full sheets in the brood frames and sections, especially the latter. If you think you cannot afford so much you should at least have a strip for a starter. It will help much more than it costs you in getting straight, even combs. You can use a starter any width from one inch up.

Our foundation is made by the "Weed process," and is a very superior article. Packed in 1, 2, 3, and 5-lb. cardboard boxes in a case.

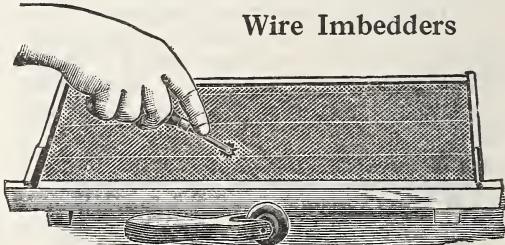
## PRICES OF COMB FOUNDATION

When you order, be sure to tell what grade you want, and give price.

GRADE	Size of Sheets	No. per lb.	In Lots of 1	In Lots of 10
Medium Brood	$7\frac{3}{4} \times 16\frac{1}{8}$	7	\$0.70	\$6.70
Extra Light Brood	$7\frac{3}{4} \times 16\frac{1}{8}$	9	.75	7.30
Light Section	$3\frac{1}{2} \times 15\frac{1}{2}$	28	.80	7.80
Extra Light Sect'n	$3\frac{3}{8} \times 15\frac{1}{2}$	30	.85	8.30

Write for lowest market prices on larger orders.

## Wire Imbedders



This cut shows the Spur Imbedder at work.

## SPUR WIRE IMBEDDER

This is like a tracing wheel, with the teeth set to firmly imbed the wire and not injure the comb.

Price by mail, 45c

## ELECTRIC WIRE IMBEDDER

A practical device that imbeds the wire by heating it electrically, the wire melting its way into the center of the wax foundation, only requires two common dry cells, simple and inexpensive.

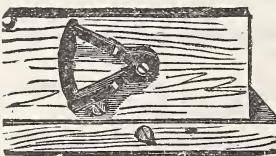
PRICE, without batteries, \$1.50

## Miscellaneous Hive Parts

DIVISION BOARDS. Wt. 5 oz. per 10. Each 15c—10, \$1.25

FOLLOWERS Each 5c—10, 50c

TIGHTENING SPRINGS 12 for 15c; 100, 90c

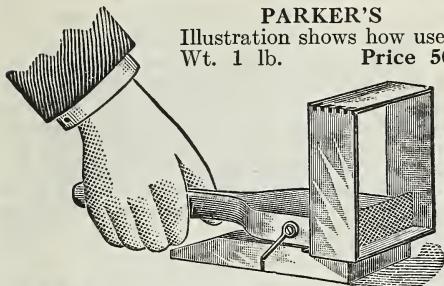




## Foundation Fasteners

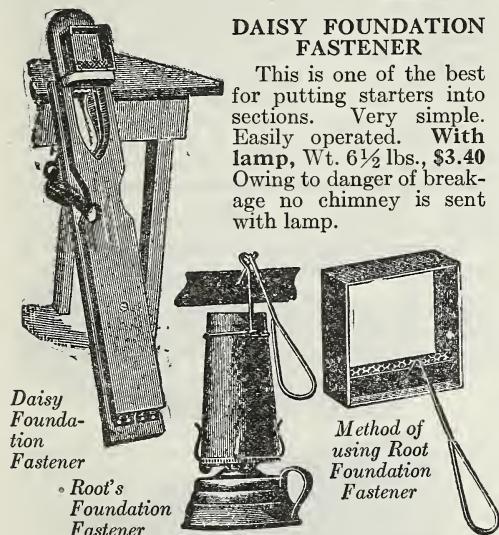
PARKER'S

Illustration shows how used.  
Wt. 1 lb. Price 50c



### DAISY FOUNDATION FASTENER

This is one of the best for putting starters into sections. Very simple. Easily operated. With lamp, Wt. 6½ lbs., \$3.40 Owing to danger of breakage no chimney is sent with lamp.



### ROOT'S FOUNDATION FASTENER

Complete with Lamp, weight 8 oz.  
PRICE, 75c; without lamp, 35c



### VAN DEUSEN WAX TUBE FASTENER

For fastening the foundation sheets to thin top-bars there is nothing better than the Van Deusen Wax-Tube. It is simply a tube half an inch in diameter, six inches long and tapering. This is filled with hot wax, and the point is then slowly drawn along the edge of the foundation in contact with the top-bar, leaving a fine stream of hot wax to cement it.

Price 40c each; by mail 45c



### ROOT NICKELED STEEL HIVE TOOL

Made of spring steel; will stand any strain as a pry or scraper; is the best tool made. Wt. 4 oz.  
Price, each, 65c

## BEE VEILS

### GLOBE BEE VEIL

No trouble to put on or take off. Protection against mosquitoes, flies, bees, gnats, etc. The veil weighs only five ounces.

Price \$1.65



### ALEXANDER

Made of fine Bronze Wire Cloth. Stands clear of the face; has muslin top and bottom. Weight 1 lb.  
Price \$1.50

### HAT VEILS

These veils have a rubber band around the top, so as to fit the hat snugly. The lower edge is bound to prevent fraying. The kinds of material are given below.



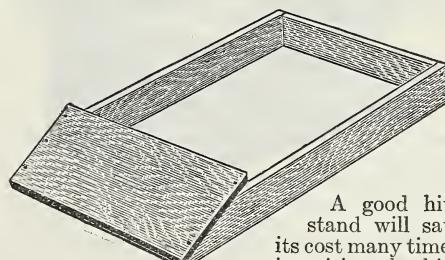
### Price List (Postpaid)

No. 1 Veil, made entirely of silk tulle..... \$1.60  
No. 2 Veil, cotton tulle, with silk tulle face 1.40  
No. 3 Veil, cotton tulle throughout..... 1.20

## BEE KEEPERS' GLOVES

CANVAS—Long Sleeve, Oiled, Ladies or Misses.  
Price \$1.25—postpaid \$1.35

## HIVE STANDS



A good hive stand will save its cost many times, in raising the hive

up from the ground, preventing the rotting of the bottom board and saving the lives of bees. Many bees heavily loaded fall and die on the ground unless an easy runway is furnished.

All Cedar Stand

30c each K.D.

## DIAMOND FERTILIZERS

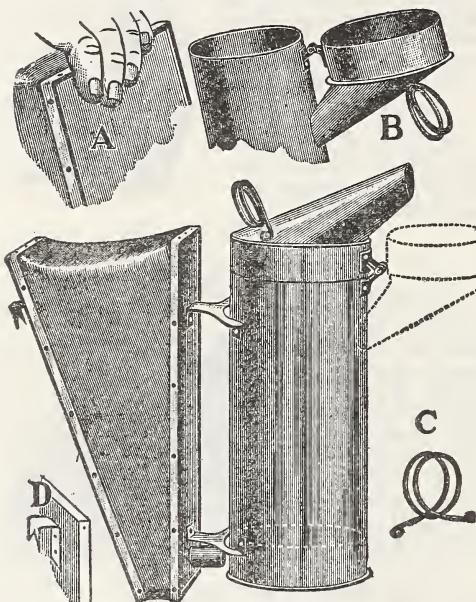
Have Helped Others to Win—They will Help You

Special Free Booklet, "FERTILIZERS," on request.

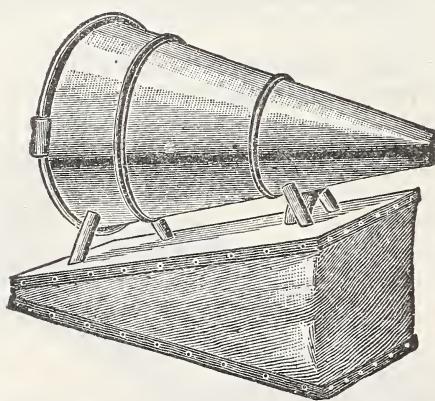


## Smokers

Every owner of a hive of bees should have a smoker. A few blasts of smoke will quiet the bees so that they can be handled with safety.



Root's (Improved Corneil)



Clark's

## Honey Knives



BINGHAM Price \$1.80; by mail \$1.85  
BINGHAM, steam heated, with tubing.  
Price \$5.50

FRUIT AND ORNAMENTAL TREES, BERRY BUSHES AND PLANTS, ROSES  
FLOWERING BULBS—New and improved varieties for Northwestern growers fully described in  
our illustrated Nursery Catalogue. Mailed Free on Request.

### What Size of Smoker to Select

If one has only a few colonies, and does not expect to have many, he can get along with the Junior. For ten or twenty colonies, and possibly more, he should have nothing smaller than the Standard. If he has fifty or more colonies, by all means have the Jumbo size. Each Standard  $3\frac{1}{4}$ -inch, weight 2 lbs. .... \$1.50  
Jumbo, weight  $2\frac{1}{2}$  lbs. .... 2.00

### CLARK'S COLD BLAST

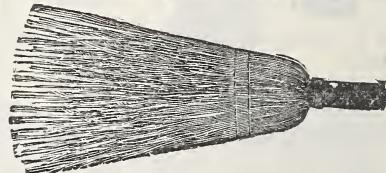
Probably the most popular smoker in use today is the cold blast, although many are now changing to the hot blast, claiming that they are more effective. The Clark is the best low-priced smoker. Weight  $1\frac{1}{4}$  lbs. Price \$1.10

### BINGHAM

This is strong and well made, does not clog up, and burns any fuel. It has recently been improved by the addition of a curved snout. The four larger sizes have wide shields; the two smaller have narrow shields. All have wire handle to cone, and inverted bellows. The "Conqueror" and "Doctor" cannot be excelled for use in large apiaries.

Each  
Bingham Little Wonder, weight 1 lb. .... \$1.10  
Bingham Doctor, weight  $1\frac{1}{2}$  lbs. .... 1.50  
Bingham Engine, weight  $1\frac{1}{2}$  lbs. .... 2.00

## Bee Brushes



COGGSHALL'S

For the wholesale brushing of bees off combs when extracting, we do not hesitate to pronounce this the best. Wt. 4 oz. Price, 30c; by mail 35c



HANDY BEE BRUSH

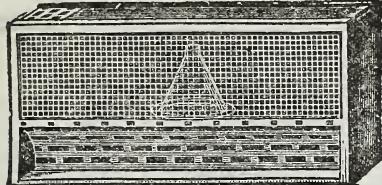
Made of horse hair. One of the very best, most lasting brushes. Weight 7 oz.  
Price, 45c; by mail 50c

## Books for Bee Keepers

New Edition ABC and  
XYZ of Bee Culture

See page 140 for complete list of books and prices.

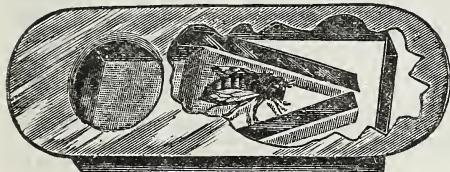
## Alley's Combined Drone and Queen Trap



This is placed before the entrance to the hive, and is designed automatically to catch and cage the drones in an apartment by themselves. They can then be carried to another apiary, or be destroyed, as circumstances require. The trap will also catch the queen when a swarm issues, and hold her confined until the apiarist can give her his attention. As she cannot get away, the bees will, in all likelihood, return into the hive. An excellent non-swarming device. Directions for use are attached to each trap. Wt. 1 lb.

**IMPROVED WIRE FRONT.** Wt. 1 1/4 lbs.  
Each, 8 frame \$1.00—10 frame \$1.10

## Porter Bee Escape

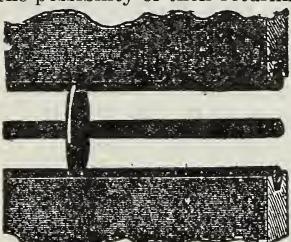


No well regulated apiary can afford to be without bee escapes any more than it can afford to be without a bee smoker. The Porter is very much the best. In taking off the honey it is the greatest labor saver that has been introduced in late years. It avoids "breaking the back" in shaking heavy supers to get the bees out; does away with the cruelty of smoking the bees. There is no need of receiving a single sting, and robbers stand no show whatever. All that is necessary is to slip an escape board between the super and brood nest or main part of the hive (say toward night), on each of the colonies from which you desire to remove the honey.

**PRICE**, as per illustration, 25c postpaid  
**Price**, mounted on board (Wt. 2 1/4 lbs.), 70c

## Porter's Escape for Honey Houses

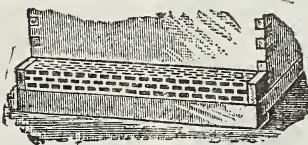
The escape shown above is designed to be used in the hive, but this one is especially made for use on doors and windows of workshops, extracting rooms and other places where bees get in, and it is desirable to get them out without the possibility of their returning. No extracting room will be complete without one or more of them. Wt. 2 oz. Price, 25c postpaid



**NEW STYLE  
WOOD and WIRE  
HONEY BOARD**  
No sharp edges for  
the bees to pass  
over.

## Bee Entrance Guards

ROOT'S OR TINKER'S

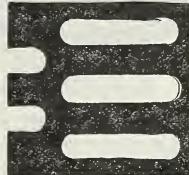


These are to admit workers, and to exclude drones. After the drones are all out, fix the guards over the entrance, and at night the drones can be destroyed. Wt. 1/4 lb.

**Price, Zinc Front** 35c  
**IMPROVED WIRE FRONT.** Wt. 6 oz.  
**Price, 8 Frame** 35c—**10 Frame** 35c

## Perforated Zinc

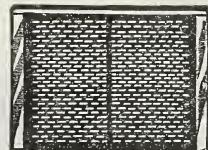
Root-Tinker  
Perforated Zinc.



Perforations, 17-100ths inch wide.  
This is used between the upper and lower stories, to prevent the queen going up above. It is also used in making entrance guards, queen and drone traps, etc.

**Zinc Sheets, perforated solid, 32x96.**  
Wt. 6 lbs. **Price, each \$4.00**

## Honey Boards



**ZINC HONEY BOARDS**  
**No. 1 or 11**      **No. 12 or 13**

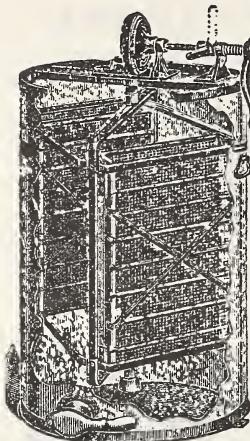
### ROOT'S OR TINKER'S

Honey boards are used to confine the queen of the brood chamber, and are very generally used in the production of extracted honey. Nos. 1 and 11 are of unbound zinc, and are placed directly on top of the frames. This allows the bees to pass through the holes directly over the spaces between the frames. Nos. 12 and 13 are wood-bound, with a bee space one side, and reach to the outside of the hive. When placed on the dovetailed or other similar hives there is a bee space above and below the zinc.

### PRICES

No. 11. 8-frame, unbound, 12x19 1/2 in.	45c
No. 1. 10-frame, unbound, 14x19 1/8 in.	50c
No. 13. 8-frame, wood-bound, 13 7/8x20 in.	70c
No. 12. 10-frame, wood-bound, 16x20 in.	75c
No. 8. 8-frame, wood and wire, 13 7/8x20 in.	90c
No. 7. 10-frame, wood and wire, 16x20 in.	1.00
8-frame, 7-wire	Each 1.00
10-frame, 7-wire	Each 1.10

# Honey Extractors



Two-frame  
Reversible Cowan

## COWAN TWO-FRAME EXTRACTOR

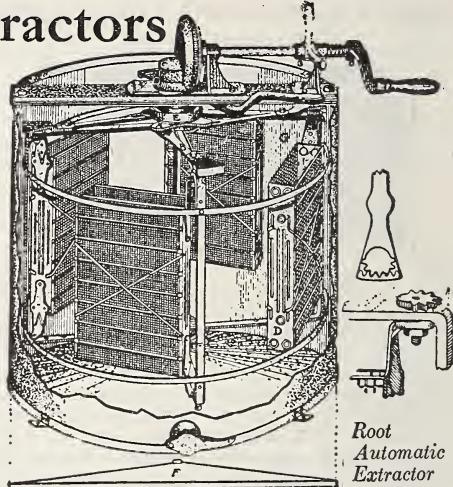
The Cowan Extractor now takes the lead over all others in use, as it is easily reversed. Always the best machine when rapid work is required.

Price \$43.00

## NOVICE TWO-FRAME

For any size frame not over 9½ by 18½ inches; not reversible; weight 45 lbs.

Price \$32.50



Root  
Automatic  
Extractor

The NEW ROOT FOUR-FRAME AUTOMATIC EXTRACTORS are fitted with a brake, and a slight pressure, when it comes time to reverse, will turn the pockets, the other side to when they can be speeded up without having to stop the extractor. They reverse instantly without jar or injury. This is a great advantage and an exclusive feature. Has ball bearing and slip gear device. Root Extractors are built for hard service and are the best made. Weight 210 pounds.

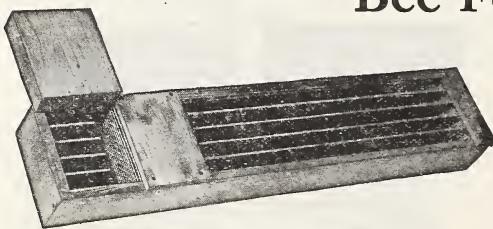
Price, each \$90.00

## HATCH WAX PRESS

The most practical and satisfactory wax press, every part being thoroughly tested to withstand the enormous strain placed upon a machine of this type. The quality of the wax is superior to that secured by other methods, and the economy and simplicity of operation makes the Hatch the best press for the average bee keeper.

Price, each \$20.00

# Bee Feeders



ALEXANDER FEEDER

This is comparatively a new feeder. The bottom board slides forward, and the feeder is placed at the back and under the hive. The bees go into the feeder from the brood chamber. This feeder has many good features. Wt. 1¼ lbs.

Price, 75c

## DIVISION BOARD FEEDER

Made to hang in brood chambers, to one side or between the frames. Wt. 1¾ lbs. Price 55c

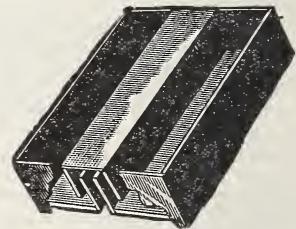
## IT PAYS TO FEED BEES

Do not let them go into winter quarters short of stores. Sugar Syrup 2 parts sugar to 1 of water for winter stores, fed in early fall, makes ideal winter feed.

Sugar syrup 1 part sugar to 1 of water, fed to stimulate brood rearing is practical and economical if fed when bees are flying and when no honey can be gathered from outside sources.



Boardman



Miller's Feeder

## MILLER'S FEEDER

A superior feeder for feeding colonies their winter stores. It sets on the hive in the same space occupied by a T-super. It measures 12 x 18½ x 4½ inches, and will hold about 25 pounds of syrup. When set on the hive it effectively shuts all bees beneath it, and they enter it from below. The syrup is poured in on either or both sides. Wt. 5 lbs.

Nailed up complete, each, \$1.25; in flat, 90c

## BOARDMAN'S FEEDER

(See cut). Wt. ½ lb. Price, without jar, 35c

## HELP YOUR BEES

and increase your profits. Grow crops that are honey producers.

WE CAN TELL YOU WHAT IS BEST

—SEND US YOUR BEESWAX. WE WILL TAKE IT IN TRADE, OR PAY YOU CASH.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

## Cages for Queens



BENTON CAGE

This is undoubtedly the best cage for mailing and is adapted likewise for introducing. Directions for introducing are printed on the cover. Price, no candy, by mail, 5c each, 100 \$4.50



## West Queen-Cell Protector

Complete directions for use accompany each lot of cages. Price each, by mail 15c

### SPIRAL CAGES

We also furnish spiral cages to be slipped over these cell protectors, as shown in the cut at the right. They are designed to hold the virgin queen, after she hatches, till she can be disposed of.

Price each 15c, 10 by mail \$1.40

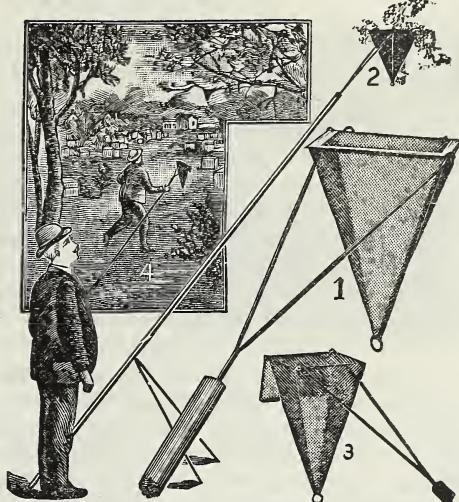
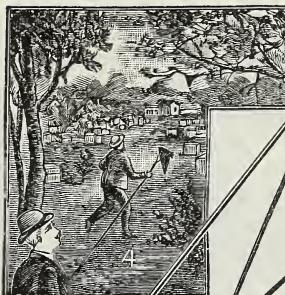
### DOOLITTLE CELL PROTECTORS

We can still supply the wire Doolittle Queen-Cell Protectors. Price each, by mail 10c

### Root's Queen Rearing Outfit

A complete set of tools and materials, with instructions, enabling one with little experience to rear his own queens at small expense. Price \$6.50

## Swarming Device



MANUM'S SWARMING DEVICE

A most complete swarming device. To hive a swarm, place the open basket under a cluster of bees, so that when they are shaken from their position they will fall into the basket. Close the lid, and as most of the bees will be inside, they can be carried and emptied into the hive. The swarmer is light and conveniently carried.

Price, wire basket, without pole, bail only, \$2.50. Weight 3½ lbs.

## QUEEN BEES

We are in a position to furnish untested Italian queens after the middle of April, weather conditions being favorable. It takes about seven days to get these in from the apiary, so do not expect queens by return mail. **Untested Queen.** May, June, July, August, September.

Price \$2.00



**Tested Queens** cannot be furnished before May.

Price each \$2.50

## BEGINNERS' OUTFIT

To the inexperienced we recommend the following complete equipment—all that is necessary except the bees—these you can generally purchase near your home and save the express charges. It is best to have them examined by an experienced man to see that the colony is in a healthy condition.

**ITALIAN BEES** (the leather colored), are to be preferred but any strong colony will do for we can supply pure bred Italian Queens that will soon Italianize the colony as the worker bees live but a short time.

- 1 Copy A B C and X Y Z Bee Culture.
- 1 Fig. 1-8 Western Cedar Hive.
- 1 Clark's Cold Blast Smoker.
- 1 Bee Veil No. 2.
- 1 Parker Foundation Fastener.
- 1 Porter Bee Escape, Mounted.

1 Pair Long Canvas Gloves.

“GLEANINGS IN BEE CULTURE”—The best bee magazine—a year's subscription.

PRICE Without Bees \$12.00  
F. O. B. Portland



## POULTRY SUPPLIES

**I**N THE following pages we offer everything necessary for the successful production of poultry and you can depend upon the supplies and appliances listed as being the standards in their line.

NEW METHODS of brooding by the use of the Standard Colony Brooder stoves have proven economical and successful, reducing the cost of raising chicks, developing them quickly into sturdy strong growers that make weight more rapidly than chicks brooded under old methods.

WE ARE PIONEERS in the Poultry Supply business in the Northwest, and our Famous Diamond Poultry Foods and Supplies are the standards wherever known. Our Poultry Supply Department is in the hands of trustworthy practical poultrymen—men of experience, who are competent to confer with and advise you on any subject pertaining to the raising of Poultry—a service that is free to you.

IT HAS BEEN STATED, and probably is true, that the average back lot or farm hen lays less than 80 eggs per year, and if that is the case, the owners of such hens are keeping them at a loss of approximately ten dozen eggs per year per hen, as it is now an established fact that by proper selection and care it is easy to produce 200 eggs per year per hen and at no greater expense in time, material or labor than is required to produce the 80 egg average.

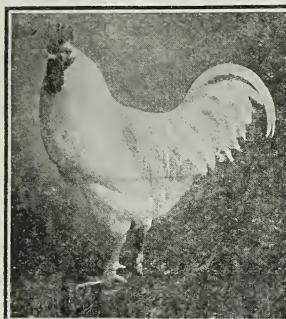
OTHER THINGS BEING EQUAL, a man will usually be more successful with the breed which he likes the best than with another breed, as good or perhaps better, in which he has little or no interest. Nearly all the well-known varieties of the present day are profitable under suitable conditions, and with good care it is not impossible to produce the 200-egg hen from the breed nearest at hand provided it is descended from a heavy egg-laying ancestry. There is no breed of which the hens will all be good layers and maintaining a high degree of efficiency in a flock can only be accomplished by eternal vigilance in weeding out the poor ones and seeing that no detail is overlooked in the care of those retained.

ON PAGE 137 OF THIS CATALOG you will find a list of books and pamphlets on the production and management of poultry, each work having been turned out by an expert in the business. If you would succeed in your chosen business, or pastime, you should make good use of those books. It is possible to economize in equipment without serious loss but it is decidedly unsafe to attempt to buy cheap breeding stock, cheap feeding material or to try to get along without the best books for instruction or reference. The real poultry enthusiast is as energetic and persistent in the study of his literature as he is in the care of his stock, knowing that his greatest success will be attained by keeping abreast of the times and in taking advantage of every short-cut and new discovery which will fit his particular conditions.

ON THE FOLLOWING PAGES you will find a list of poultry foods prepared under formulas worked out by experts of the widest experience, formulas which have stood the test of actual use for over twenty-five years and which, as there is no variation in their food values, have become standardized and are absolutely reliable. It is impossible to produce good poultry with poor food, and as our Diamond Quality Chick Food, Baby Chick Mash, Egg Food, Growing Food, Pigeon Food and All Grain Scratch Food are made in our own mill, under the supervision of our own experts, we know that no better foods can be found in any market at any time at any price. That "the best is always the cheapest" is a proverb which fits poultry raising more closely perhaps than any other line of modern business.

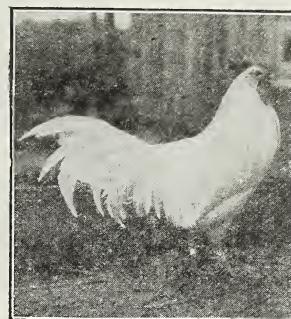
DIAMOND BABY CHICK MASH—We desire to call your attention to our new Baby Chick Mash. GROWS—MATURATES—FATTEENS. This mash is a milk-equal that prevents bowel trouble, leg weakness and carries them safely through the dangerous first three months. You should give it a good trial.

# THOROUGHBRED POULTRY AND EGGS



**COCKERELS** and older birds from **\$3.50 up.**

**PULLETS** and Hens from the finest laying strains ranging in price from **\$1.00 up.**



## PRICE LIST OF EGGS FOR HATCHING

	Thoroughbred Eggs	Exhibition Eggs		Thoroughbred Eggs	Exhibition Eggs
Plymouth Rock, Barred	\$3.00-15	\$15.00 C	\$5.00-15	Minorca, S. C. White	\$5.00-15
Plymouth Rock, White	3.00-15	18.00 C	7.00-15	Orpington, Buff	4.00-15
Wyandotte, White	4.00-15	15.00 C	5.00-15	Brahmas, Light	5.00-15
Wyandotte, Silver Laced	3.50-15		5.00-15	Jersey Black Giants	
Leghorns, White	2.50-15	12.50 C	3.00-15	Hamburg, Spangled	3.00-15
Leghorns, Brown	3.00-15	15.00 C	5.00-15	Bantam, all breeds	
Leghorns, Buff	3.50-15		5.50-15	Ducks, Indian Runner, Fawn and White	
Andalusian, Blue	3.00-15		5.00-15	Ducks, Pekin	
Anconas, Mottled	3.00-15		5.00-15	Geese, Toulouse	
R. I. Red, S. C.	3.00-15	15.00 C	5.00-15	Turkey, Bronze	
Minorca, S. C. Black	3.00-15	15.00 C	5.00-15		

You can send your order in direct at the above figures.

## Special

We have made arrangements with a breeder having the famous HOLLYWOOD strain of WHITE LEGHORNS, for a limited number of settings. This is one of the heavy laying strains. Why not secure a few settings to raise your breeders for next season. **Price \$8.00 per setting of 15**

## Day Old Chicks



**DAY OLD BABY CHICKS**—Selected from the finest laying strain of White Leghorns, and other breeds of HIGH EGG PRODUCTION.

All chicks guaranteed free from White Diarrhoea at time of shipment, according to O. A. C standard test.

Deliveries will be made in order received, commencing about the 15th of February, 1922. **ORDER EARLY.**

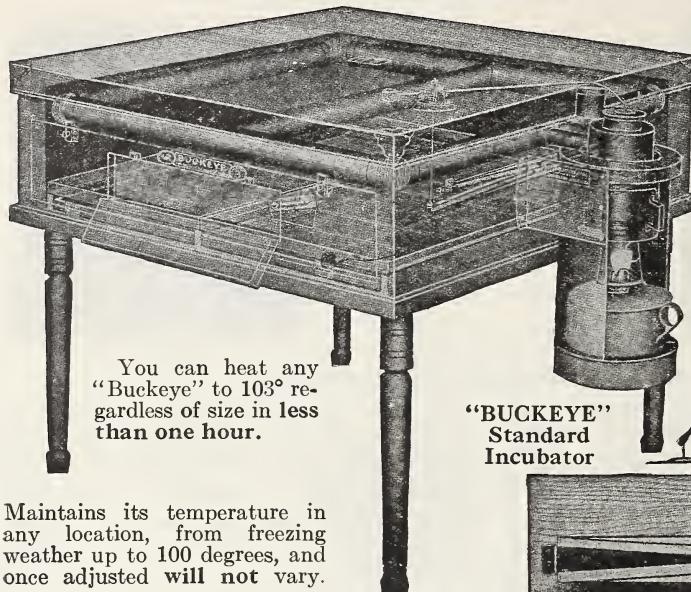
Write for prices, stating breed and quantity wanted.

Send us your orders for Poultry or Eggs, **any breed or strain**, and secure the advantage of expert, critical selection, that guarantees full value for your money. We do not depend on any one breeder, but can give you the pick of the prize-winning strains at right prices.

**Prices** depend upon whether or not exhibition birds are wanted. But the following general list gives average prices for **guaranteed thoroughbred stock from recognized fancy strains**.

For fancy exhibition stock write us your requirements. **We can fill the bill.**

# “BUCKEYE” Hot Water INCUBATORS



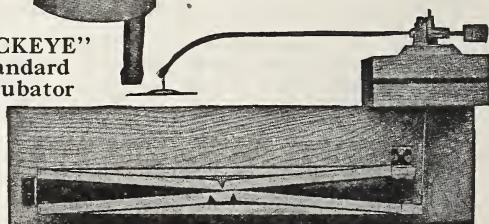
You can heat any “Buckeye” to 103° regardless of size in less than one hour.

Maintains its temperature in any location, from freezing weather up to 100 degrees, and once adjusted will not vary.

You fill the lamp, turn the eggs—and the “Buckeye” will hatch every hatchable egg. No experience needed.

Nearly half a million “Buckeyes” are in operation in all parts of the United States.

“BUCKEYE”  
Standard  
Incubator



Buckeye Thermostat

## READ THE FOLLOWING STATEMENTS FROM THE MANUFACTURER

THE unprecedented success which has followed the Buckeye for twenty-five years is primarily due to the invention of the **Buckeye hot-water system**, without which that perfect balance between the **temperature, moisture and ventilation** which is so necessary to successful incubation, would be a physical impossibility. Heating the egg chamber without cooking all the moisture out of the air is responsible not only for the abundant supply of natural moisture but at the same time the soft, radiated heat from the hot water tank provides an absolutely uniform temperature and permits the perfect ventilation of the egg chamber.

**We guarantee the temperature of every Buckeye we build to be uniform within a fraction of a degree at all times in the egg tray.**

The regulation of temperature is purely automatic and needs no watching. You set the regulator when the hatch is started and do not touch it again until the next hatch.

The incubator can be operated in any temperature regardless of sudden changes. Regardless of size or price, we guarantee every Buckeye to work satisfactorily in any temperature down to freezing. No previous incubator experience is required to operate a Buckeye. Outside of filling the lamp and turning the eggs, everything is automatic and requires no attention from the operator.

## PRICES AND SIZES OF BUCKEYE INCUBATORS—F. O. B. Portland

Size	Weight	Price	Size	Weight	Price
No. 14—65-egg, short legs.....	55 lbs.	\$18.00	No. 2—175-egg.....	135 lbs.	\$48.25
No. 16—120-egg.....	85 lbs.	30.75	No. 3—250-egg.....	200 lbs.	62.50
No. 17—210-egg.....	125 lbs.	40.50	No. 4—350-egg.....	230 lbs.	73.75
No. 1—120-egg.....	110 lbs.	41.00	No. 5—600-egg.....	325 lbs.	116.00

**Nothing left to the judgment of operator—that's why a “Buckeye” never goes wrong**

## EXTRA PARTS FOR BUCKEYE BROODERS

Thermometers (tested).....	\$1.25	Lamp Burners (No. 35).....	\$0.75	Lamp Chimneys.....	\$0.50
Lamp Bowls.....	1.00			Lamp Wicks, per dozen.....	.35

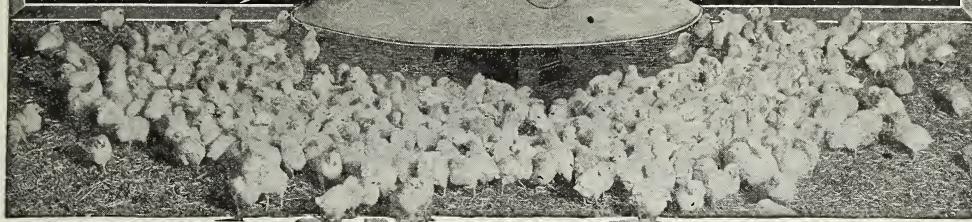
## EXTRA PARTS FOR STANDARD BROODERS

Wafer Thermostats.....	\$0.50	Stove Lid.....	\$0.75	Hover Ring.....	\$2.00
Lower Regulator Arms.....	1.00	Check Draft Cover.....	.50	Hook Rod.....	.25
Upper Regulator Arms.....	1.50	Check Draft Protector.....	.50	Gas Burners.....	5.00
Half Grate (plain).....	1.50	Ash Pit Door.....	1.00	Upper Flue Cylinder.....	5.00
Shaker Grate.....	1.50	Ash Pan.....	.50	3-inch pipe for Brooder Stoves, per length.....	.30
Shaker Handle.....	.50	Regulator Bolt with Wing Nut	.20	Elbows for 3-inch Pipe.....	.25
Grate Lock.....	.50	Baffle Plate.....	1.00		



# "BUCKEYE"

## Standard Colony Brooder Stove



This is the Famous Original Brooder Stove that has been copied or imitated by every manufacturer of Brooder Stoves

### SELF FEEDING      SELF REGULATING      EVERLASTING

Cuts the Cost of Equipment and Operation to Less than Half—Reduces the Time and Labor to Less than a Fourth. Nothing to Break. Nothing to Wear Out. The Simplest Safest and Most Economical Brooder Ever Invented.

These brooder stoves are efficient and satisfactory in every respect; require but little attention, can be operated anywhere where natural temperature does not fall below freezing; burn hard coal, coke, briquettes or gas; fill the firebox once and shake down the ashes twice a day and they require no further attention.

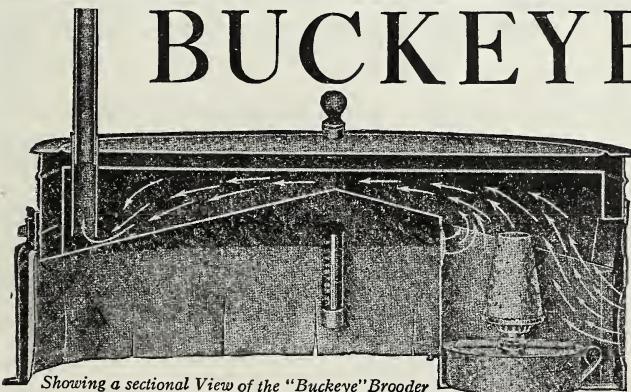
The Hover is galvanized steel, can be readily raised out of the way when the stove needs attention, has no curtain to wear out or collect dust and will care for any number of chicks from one or two up to full capacity. As the Hover is open all around the ventilation is perfect and the chicks never crowd.

The temperature is regulated automatically by a thermostat attached to the stove and which will hold the temperature within a range of one or two degrees at all times.

Prices:	No. 25—Capacity 1200	Canopy 56 inches.	Weight 109 pounds	\$34.00
	No. 19—Capacity 1000,	Canopy 52 inches.	Weight 95 pounds	29.50
	No. 18—Capacity 500,	Canopy, 42 inches.	Weight 75 pounds	23.75
Gas Burner for Brooder Stove				4.50

The above includes one length of pipe. Only one length of pipe included with each brooder.

## BUCKEYE PORTABLE BROODER



Showing a sectional View of the "Buckeye" Brooder

The Lamp Brooder that broods like a stove Brooder. The chicks hover at the curtain, making crowding impossible.

Note that every particle of air under the hover is drawn from the outside—then up into the upper chamber, where it is discharged through the exhaust tubes. Every particle of impurity is drawn up and out—nothing can come back.

The Portable Lamp Brooders are designed to meet the needs of the poultry raiser who produces only a small number of chicks. It is smaller, more compact and has a capacity up to about 150 chicks.

The body of the brooder is made of galvanized iron and has a lamp chamber which is separate from the space occupied by the chicks. The air is heated by passing around and over the lamp and is distributed equally over the entire brooding chamber. Each brooder is supplied with a thermometer which registers the actual temperature of the brood chamber at all times.

Prices:	Made in Three Sizes	No. 20—Diameter 19 inches, 60 chicks	\$12.50
		No. 21—Diameter 22 inches, 100 chicks	16.25
		No. 22—Diameter 30 inches, 150 chicks	20.00

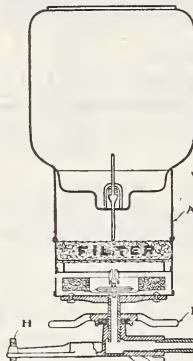
For Prices on extras, such as Lamps, Thermometers, Chimneys, Wicks, etc., see Page 118



# THE BUCKEYE BLUE FLAME WICKLESS

## OIL HEATED COLONY HOVERS

Burns Coal Oil—Has a Clean, Steady Blue Flame that Gives an Abundance of Heat. No Wicks to Trim. No Gas Fumes. Safe and Economical.



SECTIONAL VIEW OF THE  
"BUCKEYE" BLUE FLAME  
WICKLESS OIL HEATER WITH  
VALVELESS AUTOMATIC CONTROL  
PATENTED MARCH 29, 1921  
FIVE OTHER PATENTS COMING THROUGH  
FULLY PROTECTING EVERY FEATURE  
-BEWARE OF INFRINGEMENTS-

**THE WICKLESS BURNER** has a visible oil feed that is easily regulated and controlled. The oil container is glass and is outside of the hover—the oil being fed to the lighting ring in the center of the hover only as needed, and cannot become heated or ignited by the burner.

**THE HOVERS** are made of galvanized steel, have steel legs and have a capacity with our 42-inch hover of 500 chicks or less; with our 52-inch hover, 1,000 chicks or less.

### SIZES AND PRICES

No. 11—42-inch Hover, wgt. 50 lbs., \$22.25

No. 12—52-inch Hover, wgt. 60 lbs., \$24.75

### EXTRA PARTS FOR BUCKEYE BLUE FLAME BROODERS

No. 134 Vaporizer.....	\$1.00	No. 138 Inside Chimney.....	\$0.75
No. 135 Burner.....	1.50	No. 139 Chimney Cap.....	1.00
No. 136 Outside Chimney.....	.75	No. 144 Oil Jug.....	1.00
No. 137 Central Chimney.....	.75	No. 146 Jug Cap.....	.50

### "BUCKEYE" INCUBATORS—PRICE LIST OF EXTRA PARTS

Thermometers for Incubators (tested).....	\$1.00	Brackets for all Incubator Regulators.....	\$0.35
Thermometer Holders for Incubators.....	.15	Lamp Support for Standard Incubators.....	2.50
Lamp Bowls for all Incubators.....	1.00	Lamp Hanger for Incubators Styles A, B, C.....	.50
Lamp Burner No. 2 (will fit Incubators Style A, B, and C, Standard 110 and Standard 220).....	.50	Lamp Hanger for Incubators Styles E and H.....	1.50
Lamp Burner No. 35 (will fit Incubators No. 60, No. 1, No. 2, Style E and Style H).....	.75	Incubator Legs (long).....	.75
Lamp Burner No. 50 (will fit Incubators No. 3, No. 4 and No. 5).....	1.00	Incubator Legs (short).....	.35
Lamp Burner No. 3.....	.75	Dampers (only) for Incubators.....	.25
Lamp Chimneys for all Incubators.....	.50	Egg Testers.....	.50
Lamp Wicks for all Burners, per dozen.....	.35	Drain Caps for Incubators.....	.25
Thermostats for Incubators (metal).....	2.50	Filler Caps for all Standard Incubator Tanks.....	.35
Connecting Rod and Nut for all Incubator Regulators.....	.50	Filler Caps for Incubator Lamp Bowls.....	.25
Lever for all Incubator Regulators.....	1.00	Door Catches for Standard Incubators.....	
		Underwriters' Lamp Support with Gas Heater Complete.....	4.50

When ordering new tanks for old incubators, the order must be accompanied by the exact dimensions of the tank to be replaced. Diagrams for this purpose will be furnished on application.

When ordering new parts for old incubators, always mention size and design of the incubator.

*A large percentage of the agricultural colleges and experiment stations throughout the United States have adopted the Buckeye as the standard incubator, which is a high tribute to any mechanical device.*

The BUCKEYE Catalog mailed on request.

Lighting rings for the RELIABLE OIL BURNING Brooder, Dozen \$2.00.

FEED your Chickens THE DIAMOND brand of poultry FOODS.

## NORWICH AUTOMATIC EXERCISER AND FEEDER

Every kernel of grain put into this feeder will go to your flock, not a single one will be wasted. Absolutely bird and rat proof. Rain or dampness cannot affect it. Saves its cost in ninety days by preventing waste, requires no attention except filling of hopper when empty. Adjustable for slow or fast feeding.

### KEEPS THEM BUSY ALL THE TIME

Guaranteed to improve the flock, increase the egg production and save feed. Descriptive pamphlet on request.

### MADE OF HEAVY GALVANIZED IRON

	Each
No. 1—8 quarts	\$3.75
No. 2—14 quarts	4.75
No. 3—20 quarts	6.25



Chicks  
6 Weeks  
old will  
operate  
this feeder

## Norwich Dry Mash Hopper

Solves the problem of Automatic Dry Mash Feeding. The vibrator rods make clogging impossible and the construction of feed basin eliminates waste.

Price, 8 qt. capacity, weight 8 lbs., \$3.25

## Moe's Dry Mash Hopper

Made of heavy galvanized iron. Taper shape of hopper—larger at the bottom keeps feed from clogging.

Covers when closed, makes it rat and mouse proof. Large size 19x24 inches \$3.25 Each

## FEEDERS AND FOUNTAINS

### GALVANIZED WALL FOUNTAIN

No. 5—Something new and serviceable. To be hung on the wall or against an upright post. The patented construction protects the water from becoming soiled. One gallon size, weight 2 lbs. Each 95c

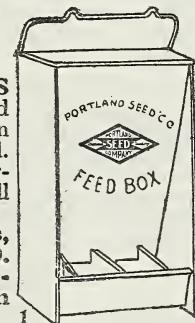
Two-gallon size, weight 2½ lbs.  
Each \$1.20

### No. 1 "DIAMOND" SANITARY

#### SELF-FEEDING BOXES

Made of heavy galvanized iron; soon pays for itself in preventing waste of feed. Keeps grit, shells and charcoal before the fowls at all times.

Price, 3 compartments, weight 2½ lbs., each \$1.10. Large size, 2 compartments, weight 3 lbs., each \$1.45.



### No. 12 GALVANIZED IRON FOUNTAINS

Our Galvanized Iron Drinking Fountains, we believe, are the best in use. They are easily filled, cleaned and kept clean. Lighter than the earthenware and safer to ship.

Price—Small size, weight ¾ lb., each 40c; medium size, weight 1 lb., each 50c; large size, weight 1½ lbs., each 75c.

### SANITARY STONE FOUNTAIN

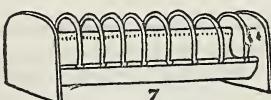
These are strong and well finished; made in two pieces. They probably keep the water cooler than the galvanized fountains, but are heavier to handle and more liable to break.

Price—½ gal. 75c; 1 gal. \$1.00; 2 gal. \$1.50.

### No. 7 WIRE COVERED FEEDER

A practical, convenient feeder for young chicks. Durable and easily cleaned. Weight 1 lb.

Price, 12 inches  
each 50c.



## STAR FOUNTAINS AND FEEDERS

Made of one solid piece of pressed metal, holds a Mason quart jar, has more available space for drinking or feeding than other feeders of this class.

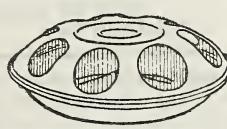
Price, without jar,  
Each 15c

### CIRCULAR CHICK FEEDER

Made of heavy galvanized iron. The cover fits tight and chicks cannot climb into it.

Convenient and economical. Made in two sizes.

8 holes.	Each 25c
12 holes.	Each 35c





## MANN BONE CUTTERS

The only mill that will cut Green Bone and not clog

THE Mann's Green Bone Cutter is offered to the poultry world on a warranty to produce a perfectly edible poultry food, with no waste, from any lot of green bones, with less labor, and less annoyance than any other bone cutter.

We send the Mann's to any responsible poultryman with this understanding: If you are not satisfied that it meets every claim we make for it, notify us, and we will give instructions to return the machine, and will, upon receipt of same **refund purchase price**. Could you ask more?

The Mann's is the only machine which has a self-governing feed, producing uniform pressure against the knife, whether the bone be hard or soft. You set the machine to suit your strength, and it never requires more power than you set it for.

### MANN'S No. 5

Has four knives, large solid cylinder, and has the latest patent automatic governing spring feed which makes it one of the best low-priced bone cutters ever offered. We can furnish with crank, balance wheel, or mounted on iron stand. Mechanism of the Mann's showing automatic force-feed, cylinder parts, etc. Mann's catalog gives all details.

### MANN'S No. 7

The New No. 7 is mounted on a strong iron stand, and has patent automatic governing spring feed. Large open-hinged cylinder, giving instant access to all working parts, has six knives, gear guard, anti-clog device, heavy balance wheel and other improvements. (See cut.)

### MANN'S No. 7½

Adopted to run either by hand or power without any change. The particular advantage of the 7½ is that while it is a complete power machine, it can be operated by hand just as easily as the No. 7. It is recommended even if you have no power, for should you get power you need be at no further expense.

### MANN'S No. 9

About the same as No. 7, except that it has a larger cylinder and greater holding capacity, different design and larger table.

### MANN'S HANDSOME 40-PAGE CATALOG

is fully illustrated and tells all about the different style Green Bone Cutters, Clover Cutters, Corn Shellers, Grit Smashers, etc., and contains much valuable information. Free on request.



### MANN'S No. 12—POWER

Strictly a power machine. Capacity 120 to 150 pounds per hour. Horsepower required, one to two. Just the machine for marketmen, extensive breeders, or anyone who has large quantities of bone to cut.

### PRICE LIST OF MANN'S BONE CUTTERS

New Styles	Price	Wgt.
No. 5C (with crank handle) . . . . .	\$13.50	30
No. 5B (with balance wheel) . . . . .	17.75	55
No. 5BM (B.W. and iron stand) . . . . .	22.50	80
No. 7 (B.W. and iron stand) . . . . .	27.00	107
No. 7½ (hand or power) . . . . .	36.00	150
No. 9 (B.W. and iron stand) . . . . .	40.50	163
No. 12 (power machine) . . . . .	70.00	260
No. 15 (power machine) . . . . .	145.00	420

### MANN'S CORN SHELLER

Best low-priced corn sheller made. A profitable tool if you have corn to shell. Weight 10 lbs.

Price \$3.75

### MANN'S CAST IRON MORTAR

For breaking glass, crockery ware or oyster shells. Weight 33 lbs.; height 12 inches; 9 inches square; pestle 4 feet long.

Price \$5.00



### WILSON DRY BONE MILL No. 1

This is a practical mill, grinding all kinds of shell, crockery, grit, burnt or dry bone, feed, etc., coarse or fine. Weight 33 lbs.

Price \$7.50

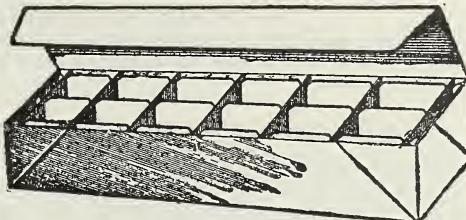
### WILSON GRIST MILL No. 0

Made for grinding flour, corn meal, etc., and for cracking grain. Weight 30 lbs.

Price \$7.50

Caponize Your Cockerels and get from three to four times the usual market prices for roosters. At the same age and on the same food they will weigh twice as much and the demand for good capons is unlimited. See page 123.

## Miscellaneous Poultry Supplies—Continued



Kant-Krack Egg Box is specially designed for the safe delivery of valuable eggs for hatching and is a great favorite with poultrymen.

**Made of heavy corrugated paper.** Only a few seconds work to set the box up, pack it with eggs, and address it. These boxes are light but very strong, being firmly braced, and will stand the weight of several hundred pounds without crushing.

No.	Size	Wt.	Each	Six	Doz.
3	15-Egg	1	lb.	\$0.25	\$1.45
4	30-Egg	1½	lb.	.40	2.30
5	50-Egg	2	lb.	.60	3.50

## IDEAL PAPER EGG BOXES

Intended for use in delivering eggs to private families. Nicely printed with a blank space for your name and address. Weight 12 lbs. per 100.

**Prices**—1-dozen size, 20c dozen; \$1.10 per 100; \$10.00 per 1000. Sample box by mail 5c.

## LIVE CHICK BOXES

Our Live Chicken Boxes for delivering day-old chicks are safe, economical, convenient. They come in three sizes at the following prices:

25-chick size, each 25c; doz. \$2.75; 50-chick size, each 40c; doz. \$4.50; 100-chick size, each 60c; doz. \$6.00.

## SUWANEE EGG CARTON

Throw away your "fillers." Use this carton; packs three to a layer in an ordinary egg case, and is always ready for delivery. **Saves handling—saves breakage.** Built with double walls. Ask for sample. Weight with fillers, 3 ozs. each.

**Price:** Doz. 25c; 100 \$1.25; 1000 \$12.00

## EGG CASES

30-doz. size complete with fillers. Each 85c

## Egg Case Fillers

Packed in cases containing fillers for 12 30-doz. cases. Per Case \$3.50

Fillers for 1 30-doz. case. 35c

Fillers. Each 5c

## NEW PARCEL POST EGG CRATE



The Strongest  
Lightest Egg  
CARRIER.

You can mail  
eggs in this crate  
150 miles with re-  
turn of crate for  
3¼ cents a dozen.  
Size—12 doz.

Each, 65c

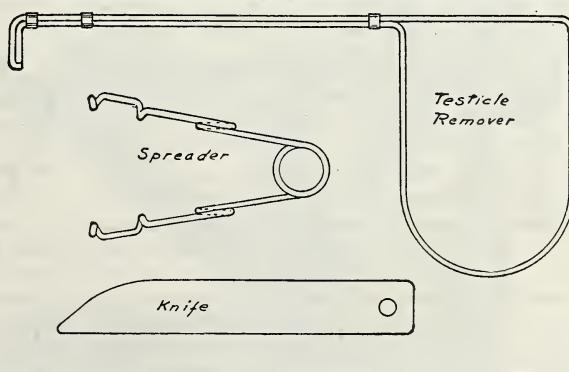
## Diamond Chick Food

Saves little chicks. Helps them to grow into big strong healthy birds. See page 126.

## VALENTINE'S CAPONIZING INSTRUMENTS

Simple and easily understood by the beginner and enable the expert to do faster and better work than ever before. These instruments make it possible to complete the operation from one side and through one incision, lessening the danger to the fowl and saving more than half the time. Full and complete directions for use, also for care of the fowl before and after the operation.

Price per set, postpaid, \$3.50



## Diamond Baby Chick Mash

For little chicks, broilers and roasters.  
Grows—Matures—Fattens.



## MISCELLANEOUS POULTRY SUPPLIES

### LEG BANDS FOR POULTRY AND PIGEONS (SEE CUTS)

Every chicken must have a leg band on before it can be entered in a poultry show. In ordering Leg Bands, be sure to state size wanted, or breed of fowls bands are to be used on, and number wanted or males or females.

**CHAMPION**—Latest and best adjustable leg band out. Has neat, compact, and smooth fastening, with no catching points; easily attached and absolutely secure. Prices postpaid, 12 for 20c; 25 for 30c; 50 for 50c; 100 for 80c.



**SPIRAL COLORED LEG BANDS**—Made like a key ring—easy to put on, nothing to catch or tear off—instantly identifies your birds as far as you can see the color. All sizes from chick to mature fowls.

**Ten Colors**—Red, White, Yellow, Black, Pink, Green, Brown, Purple, Light Blue, Dark Blue. Prices postpaid 12 for 20c—25 for 30c—50 for 50c—100 for 80c.

### SMITH SEALING TOOL

Made especially for sealing the Smith leg bands. Plain jaw \$1.50; lettered jaw, any letter, \$1.75; postage 10c.

### THERMOMETERS

#### FOR INCUBATORS—TESTED

“Buckeye.” Tested. Each \$1.00  
Fig. 6.—P. S. Co.’s triangle shape; metal back. Each \$1.00

Fig. 10—P. S. Co.’s Straight Metal back. Ea. \$1.00

#### FOR BROODERS

“Buckeye.” For Nos. 20, 21, 22. Each \$1.25  
Fig. 2—P. S. Co.’s; for any style brooder. Ea. \$1.00

#### HOTBED THERMOMETERS

For taking temperature of soil at varying depths.

No. 3½. Each \$1.50  
No. 3. Each \$1.75  
All Metal. Each \$2.00

#### BREEDER'S MAGIC EGG TESTER

 **The Manufacturer's Challenge**—Any person in the world to hatch one egg the Magic Egg Tester registers unhatchable **before incubation**. No light. No electricity. No expense and lasts a lifetime. **Shows the hatchable eggs before incubation.**

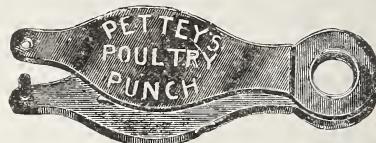
*Don't set another egg until you have the Breeder's Magic Egg Tester.* Price each \$2.50

**MANDY LEE EGG TESTER**—Made to use on lamp, fits No. 2 burner. Price 50c postpaid



**SMITH SEALED**—Made of aluminum and so constructed that by simply crushing a soft rivet they are sealed on the bird's leg, and must be destroyed to be removed. Prices postpaid, 12 for 35c; 25 for 60c; 50 for \$1.00; 100 for \$1.85.

**SMITH SEALED**—Pigeon. Doz. 30c; 100 \$1.00



#### PETTEY'S POULTRY PUNCH

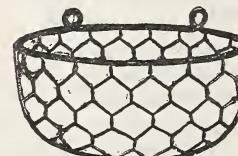
Latest, most convenient Poultry Punch; can be put on a key ring or used for a watch charm. Will not clog. Very practical. Postpaid 25c

#### RELIABLE POULTRY MARKER

For marking the web between the toes. One of the best and handiest markers. Postpaid 35c

#### NEST EGGS

**China**—Best grade Opal Eggs. Weight per dozen  $\frac{3}{4}$  pound. Price—Each 5c; 12 for 50c



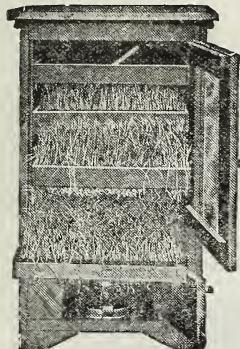
#### WIRE HEN'S NESTS

Strongly made; very durable; fasten to the wall; no harbor for vermin. Weight 10 oz. each. Price each 25c; dozen \$2.75.

We are Agents for the Famous Blatchford's Foods  
FOR BLATCHFORD'S CALF MEAL—PIG MEAL—LAMB MEAL, ETC.

**Poultry Lice are Expensive Livestock.** Keep lice and mites out of your poultry houses by the liberal and persistent use of Lee's Liquid Lice Killer. Spray it on walls, roosts and floors, also on the bottom of the nest boxes under the straw. A supply should be on hand at all times.

 Keep your yards and houses clean and well ventilated—use Germozone in the drinking water—Lee's Liquid Lice Killer.



## SPROUTED OATS

INCREASE THE EGG YIELD, DECREASE THE FEED BILL

A Bushel of oats sprouts into three bushels of nutritious green feed. Hens lay more eggs, young chicks, grow faster and are more healthy on green feed. Oats, rye and wheat can be easily and quickly sprouted and make the most economical and profitable food for winter.

### PREMIUM SECTIONAL OAT SPROUTERS—All Metal

Outside wall lined with asbestos—inside wall metal grain chamber, heat passing between the walls. One of the principal advantages of the Colfax Sprouter is the very small floor space occupied. If an additional quantity of sprouted grain is needed, owing to an increase in the size of the flock, one or more additional sections may be added, greatly increasing the capacity without in the least enlarging the space occupied.

Small Base— $\frac{1}{4}$ bu., 2 trays, 25-35 hens, weight 25 pounds.....	\$11.00	Large Base—1 bu., 2 trays, 100-150 hens, weight 50 pounds.....	\$19.50
Small Section— $\frac{1}{4}$ bu., 2 trays, 25-35 hens, weight 12 pounds.....	3.50	Large Section—1 bu., 2 trays, 100-150 hens, weight 33 pounds.....	7.50

### LAMPLESS GRAIN SPROUTERS—Must be used in a heated room

All metal, convenient to drain. Both sprout and root are aerated to promote a healthy growth without mold.	
No. L $\frac{1}{2}$ — $\frac{1}{2}$ bu., 4 trays, 50 hens, weight 12 pounds.....	\$5.50
No. L1—1 bu., 5 trays, 100 hens, weight 20 pounds.....	\$9.00

No. L2—2 bu., 6 trays, 200 hens, weight 35 pounds. \$13.50

## P. S. CO.'S SHIPPING COOPS

These Coops are all wood, neat, very light, but strong. Poultry raisers who are selling poultry at fancy prices should always use these coops to ship their birds in. If your birds are worth shipping at all, they are worth putting in a neat up-to-date coop.

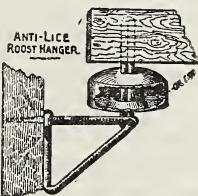
Our prices are very low. Coops always shipped K. D. (in flat), as the freight rate is much lower. Order a few of each size and have them on hand for rush orders. No. 1, for single bird or small pair; No. 2 for large bird or small trio; No. 3 for large trio or pen of small birds.

### PRICES

	Each	Six for
No. 1—10x21x18.....	\$0.60	\$3.25
No. 2—12x24x20.....	.75	4.00
No. 3—20x24x20.....	1.00	5.25



**ANTI-LICE**  
Roost Hanger  
Screws into the  
wall. Keep the  
cup filled with  
Lee's Lice Killer  
or kerosene.  
Price each 25c;  
pair, 45c; doz.  
\$2.50.



## "American" Automatic Water Faucet

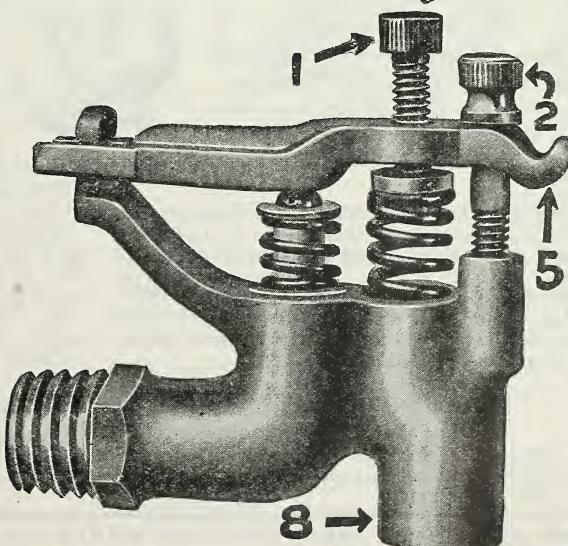
This Faucet is so constructed that water is automatically supplied to the fowls at all times.

It is adjustable for any amount of water desired.

It can be used with any kind of a trough or bucket.

Every poultryman knows the beneficial effects to be derived from having water automatically supplied.

\$2.00 each



# “Diamond Quality” Poultry Foods

**D**IAMOND Poultry Foods are manufactured from choice, clean, wholesome material. They are made to a standard and are the result of a lifetime of careful study and experiments by a thoroughly practically expert, who is recognized authority on feeding.

## DIAMOND CHICK FOOD



A Properly Balanced Ration that will make chicks grow and keep them healthy.

*For Young Turkeys, Pheasants and all young fowls DIAMOND CHICK FOOD is unexcelled. The safest, most dependable and satisfactory food.*

The select grains that are used in the preparation of Diamond Chick Food are cut by a special process, screened to a uniform size and run through a Fanning Mill to remove the dust and-meal, which is the fatal element in most Chick Foods. After this process the ingredients are carefully weighed and mixed in correct proportions. No guess work.

Diamond Chick Food gives the chicks just what Nature intended they should have, a food composed of grains (cracked), small seeds, bone, etc., mixed in the right proportions to produce a quick and profitable growth without loss.

Diamond Chick Food is so convenient, always ready for use, and you can raise so many more chicks by feeding it that it is the **cheapest food you can buy.**

### Write for Prices.

 Our trade mark on every original package is your protection. Demand it of your dealer.

Baby Chicks must have clean wholesome food. They are sure to thrive on “Diamond.”

## DIAMOND BABY CHICK MASH

is a veritable chick insurance and is a starting and developing food for chicks without an equal.

**ON THE FIRST MONTH'S FEED DEPENDS THE FUTURE RETURNS**

### For Early Maturity

After the chicks are a few days old, keep Diamond Baby Chick Mash constantly before them in dry form, just as it comes from the bag, in a feeder which they can get at easily without getting into.



Plenty of **fresh air, fresh clean water, fresh finely chopped green feed, and table scraps**, are essential **at all times.**

Above all—watch your chicks. Do not **overfeed** grain or scraps, as the Mash contains every food element necessary for perfect development.

It will, if necessary, keep for months if stored in a **cool dry place.**

### For Early Broilers

Feed exactly as for early maturity, with the addition—when the chicks are three weeks old—of an extra midday feed, every other day, of 50% each of finely ground cornmeal and Diamond Baby Chick Mash moistened into a crumbly mass either with water or sweet skim milk. This with two **grain** feeds a day, composed chiefly of Diamond Growing Food, will promote a healthy rapid growth.

## DIAMOND GROWING FOOD—ALL GRAIN—Write for Prices

### For Quickly Developing Little Chicks Into Big Profit-Paying Broilers

Our special formula for promoting a rapid, healthy growth, and should be fed after the third or fourth week; nothing else needed; will quickly produce large, plump “Broilers.”

Write for Prices.

 **ALL PRICES ARE SUBJECT TO MARKET CHANGES WITHOUT NOTICE** 

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## Diamond Scratch Food

ALL GRAIN

*Complete, economical and satisfactory for every feeding requirements from the three-weeks-old chick to mature fowls.*

A perfect "working ration" for fowls. Carefully prepared in correct proportion, a veritable "hen's delight." When fed in conjunction with Diamond Egg Food a scant allowance scattered in the scratching material in the morning keeps the hens busy hunting for the grains. In the evening feed sufficient that hens may go to roost with crops full.

Diamond Scratch Food can be fed to young chicks at three weeks and has every element necessary to hasten normal growth and build up bone and flesh.

**A rich nourishing food they greatly relish.**

**Write for Prices.**

## Diamond Egg Food

A LAYING MASH

*Makes hens lay when eggs are high; keeps poultry healthy.  
Unequaled for feeding young chicks.*

A complete ground food to be feed dry or wet. Starts hens laying and **keeps them at it.** Hastens moult. Puts poultry in prime condition. Makes young fowls grow fast.

**No Drugs—No Stimulants**—but a rich, wholesome nourishing food for growing fowls and hens, encouraging rapid growth and increasing egg production. Can be fed dry or as a mash, and is the most successful combination of egg producing elements.

Feed **Diamond Egg Food** to the hens in your breeding pens and they will produce eggs of strong vitality that hatch into sturdy, vigorous chicks.

**Put up in 100-lb. bags. Full weight.**

**Write for Prices.**

## International Stock and Poultry Foods, Remedies, Etc.

### FOR POULTRY AND STOCK

International Poultry Food—Pkgs; 25c wt 2 lbs—50c wt 4 lbs—\$1.00 wt 7 lbs.

International Louse Powder—Weight 2 lbs  
pkg 25c.

International Lice Paint—60c cans wt 5 lbs—\$1.00 can wt 10 lbs.

International Aseptin—Per box 25c postpd.

International Rheumatism Oil—Per bottle 20c.

International Sudal—Box 25c postpaid.

Dan Patch Stable Liniment—\$2.00.

International Compound Absorbent—\$2.00.

International Gall Cure—25c and 50c.

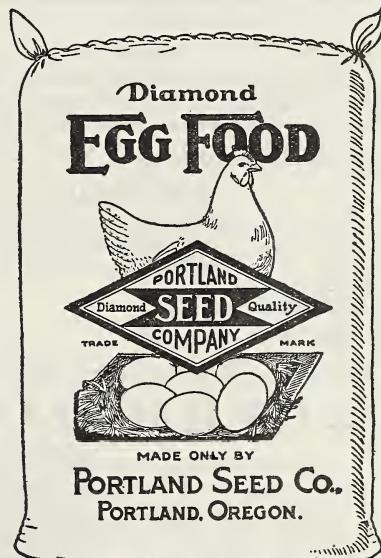
International Heave Cure—Pkg 35c.

International Distemper Remedy—Pkg 50c

International Harness Dressing—Price 20c  
wt 2 lbs—large can 35c wt 3 lbs—5 lbs  
75c—10 lbs \$2.00.

International Honey Tar Foot Remedy—  
35c can wt 2 lbs—75c can wt 3 lbs.

International Colic Cure—50c wt 2 lbs—  
\$1.00 bottles wt 3 lbs.





## POULTRY FOODS—Continued

### HIGH GRADE MEAT SCRAPS

**DIAMOND BRAND, SPECIAL**—A new meat product, perfectly prepared, fine ground and clean. The highest feeding value yet produced.

### BONE MEAL

Our "Diamond Brand" is finely ground from hard white bones, and of a superior quality. This is used by Poultrymen in their feeding mash for laying hens.

### GRANULATED BONE

Our "Diamond Brand" is made from selected hard white raw bones, and of a superior quality; an indispensable food for laying hens.

**DIAMOND. Price:** 4 lbs. 25c  
**STANDARD.** Write for Prices.

### DIAMOND MEAT MEAL

A highly concentrated food. Being cooked meat, dried and ground. Very rich in protein. It should be mixed with the soft food. No hides or tankage in our meat meal, but, as its name implies, meat, cooked, dried and ground<sup>1</sup> unexcelled for egg-production.

### GRIT

Every poultry raiser should keep a supply of grit in each pen. Made in two sizes, chick and hen size. We always send hen size unless otherwise ordered.

### DIAMOND CRYSTAL.

### BLOOD MEAL

The most highly concentrated egg-producer on the market. To be fed in soft food. Unexcelled as a food for forcing growth of chicks or as an egg food.

### DIAMOND.

 Write for prices.

## USE GERMZONE--Keeps Poultry Healthy

Poultry diseases, even colds and roup, almost always start with bowel trouble. Bowel trouble starts mostly from musty or spoiled food.

Grain, whole or ground, if it becomes damp and lays around for a week or two is apt to become musty, and musty feed is poison for chickens.

### Germzone Kills or Counteracts the Musty Poison in Food—

And, as a remedy for colds, roup, canker, sore head, swelled head, chicken pox, sores, swellings, loss of feathers, etc., Germzone is unexcelled.

**GERMZONE is the cheapest hen-health insurance one can buy.** A 75c package of Tablets will last 20 hens 20 weeks, 400 hens one week, or one hen 400 weeks, or less than 10 cents per year per hen. It means better birds, fewer losses, less worry and trouble, and more eggs.

 **Buy Germzone in the TABLET FORM—no loss from broken or spilled bottles, easier to handle and carries safer in the mail.**

*Feed your laying hens plenty of Sunflower Seed. It is a splendid food for them, is cheap, and if you have a small piece of idle land you can produce sufficient seed to feed a large flock through the winter.*

**Use Sulphur** in connection with your fertilizers and make your soil give you the highest possible returns. It is a first class fertilizer, fungicide and insecticide. See page 90.

### SOJA BEAN MEAL

Fed same as oil meal. **Price:** 3 lbs. 25c

### CHARCOAL

Our Charcoal is prepared especially for poultry; no dust; a good thing for bowel trouble, sour crop and indigestion; a health preserver.

### FISH MEAL

A fine-ground, pure, sweet fish meal, containing protein—feed as you would meat meal; a rich, wholesome food for poultry.

### OYSTER SHELLS, CRUSHED

We offer nice clean stock, free from dust and waste. These should be within reach of your hens at all times. In two sizes: coarse and fine.

**DIAMOND. Oyster.** **Price:** 6 lbs. 25c  
**OREGON. Oyster.** **7 lbs. 25c**

**PURE POWDERED BUTTERMILK**—is the pure solid content of the liquid buttermilk, with only the water taken out and nothing else added.

It contains all the food elements of the liquid buttermilk but the process of drying puts it in a convenient form that will keep indefinitely and can be hauled long distances with only moderate freight charges. Can be used just when needed and with no waste from spoilage or slopping.

**Write for Prices.**

### ALFALFA MEAL

The best substitute for green food for Winter feeding; helps keep the egg basket full; mixed with the soft feed is good for large or small chicks; endorsed by leading experts.

### POULTRY PEPPER COMPOUND

A good tonic and invigorator; ground.

**Price:** 1 lb. 25c

### OIL MEAL.

**Price:** 3 lbs. 25c

# Blatchford's

## CALF MEAL PIG MEAL LAMB MEAL

The Blatchford Motto  
FOR OVER 50 YEARS  
'QUALITY is the Best Advertisement'

### Blatchford's Calf Meal



*Good to the last drop*

The Complete Milk-Equal is in reality a substitute for milk—and should not be considered as an ordinary "feed" or "meal."

It contains all the elements of milk—a "baby food" for calves.

It is absolutely the only milk-substitute that contains in proper proportion the elements necessary for rapid and healthy growth, and the only calf meal that is thoroughly cooked and prepared for easy digestion.

Sold in 100, 50 and 25-lb. bags  
100 Pounds Makes 100 Gallons  
of Complete Milk-Equal

### Blatchford's Pig Meal

Wean your little pigs easily, safely and cheaply  
on

#### BLATCHFORD'S MILK MASH Grows—Matures—Fattens

	25-lb.	50-lb.	100-lb.
	sacks	sacks	sacks
Calf Meal.....	\$1.65	\$3.10	\$6.00
Pig Meal.....	1.65	3.00	6.00
Lamb Meal.....	1.65	3.00	6.00

### Blatchford's Lamb Meal

The Complete Substitute for the ewe's Milk  
Saves your lambs, your milk, your money

#### BLATCHFORD'S "Fill the Basket" EGG MASH

	25-lb.	50-lb.	100-lb.
	sacks	sacks	sacks
Egg Mash.....		\$1.40	\$2.75
Milk Mash.....		1.70	3.10
F.O.B. Portland, Subject to Market Changes.		6.00	

A condensed milk product, made from buttermilk, skim milk and whey.



Can be used in any way that you would use raw buttermilk.

One gallon of Lactein when diluted with water makes thirty gallons of feeding solution, enough to feed 1000 hens two days or 100 hens 20 days.

 If Lactein is profitable and indispensable to big successful poultrymen, it will prove just as profitable and necessary to you.

Lactein is put up in wooden barrels of 5, 10, 25 and 52 gallon sizes.  
PRICES: 5 gallons \$4.00; 10 gallon keg \$7.00; 1/2 bbl. \$16.50; bbl. \$28.50

F. O. B. PORTLAND

Order a barrel from your local dealer. Ask for Lactein and be sure you get Lactein. If your feed dealer does not handle Lactein we will see that you are supplied. Full information on request.

 Lactein is equally valuable for Hogs, Calves, Dogs, Rabbits, Turkeys, Ducks and Geese  
Ask for our Hog Circular



## LEE'S FOODS AND REMEDIES FOR STOCK AND POULTRY

THE GENUINE MERIT of the LEE FOODS and REMEDIES and their recognized superiority is their best guarantee, and you can depend upon them absolutely to do all that is claimed for them. The valuable booklets from the Lee Company are free to poultry keepers and stockmen, and contain reliable and complete information to date on poultry and stock feeding problems. We mail them on request.

### LEE'S LIQUID LICE KILLER FOR 20 YEARS THE STANDARD

Destroys either by vapor or contact. No trouble to apply; just paint the roosts or wall at night. Rids poultry and houses of all vermin; is prepared exclusively for this purpose, and there is nothing just as good.

Price: Qt. 60c;  $\frac{1}{2}$  gal. 90c; gal. \$1.50; 5 gals. \$6.00



### LEE'S GEMOZONE

Regular use of Germozone insures BETTER health; BETTER chicks; BETTER layers; and the RIGHT kind of BREEDERS. Use it for Bowel Complaint in little chicks; for Cholera, Roup, and other diseases among the older fowls; and regularly TWICE-A-WEEK for ALL fowls. It prevents contagion, tones the system, and insures BETTER health for the entire flock. Liquid, not prepaid, 4 oz. bottle 40c, 12 oz. 75c, 32 oz. \$1.50, gal. \$4.50; tablets, postpaid, pkg. 75c

LEE'S EGG MAKER is not a tonic nor a medicine, but a meat food of great value. It will make hens lay, chicks grow, and keep them all in a healthy, vigorous condition.

2-lb. pkg. 60c; 5-lb. pkg. \$1.15; 25-lb. pail \$4.75.

LEE'S HEADLICE OINTMENT—For little chicks. Large box, 15c

LEE'S LOUSE POWDER. 1-lb. can 30c

LEE'S WHITE DIARRHOEA REMEDY—The best medicine for this dangerous disease of little chicks. Wt. 2 lbs.; 12-oz. bottle 50c

LEE'S HOG REMEDY—Cures all diseases of hogs and keeps them healthy.

7½ lb. pkg. \$1.25, mailing weight 9 lbs.; 25-lb. pail \$3.00.

LEE'S DIP—For lice, ticks, mange, itch or scab, on cattle, sheep and hogs. Qt. 85c;  $\frac{1}{2}$  gal. \$1.25; gal. \$2.00; 5 gals. \$8.00. Mailing weights, qt. 3 lbs.;  $\frac{1}{2}$  gal. 5 lbs.; gal. 10 lbs.

LEE'S WORM POWDER—For horses, cattle, sheep and hogs. Safe and sure in result.

Pkg. 35c; weight 1¼ lbs.

LEE'S BEST CONDITIONER STOCK FOOD—Promotes good health, digestion and assimilation.

7-lb. pkg. \$1.50; 25-lb. pails \$4.50

LEE'S PEERLESS GOPHER KILLER—For killing gophers, squirrels, etc. Sure death. Quart can, wt. 3 lbs., 75c

LEE'S PEERLESS BUG KILLER  
Wt. pkd. 2 lbs; 12-oz. bottle 35c

LEE'S SMOKE FLAVOR—Hickory Smoke Extract applied to meat preserves it indefinitely, imparting the delicious flavor that is only otherwise obtained by smoking with green hickory. 12-oz. bottle, wt. pkg. 2 lbs., 40c; 32-oz. bottle \$1.00.

LEE'S FLYO-CURO—We sell thousands of cans of this fly spray every season, and it gives good satisfaction.

Qt. 70c;  $\frac{1}{2}$  gal. \$1.00; gal. \$1.50; 5 gals. \$7.00. Mailing weights, qt. 3 lbs.;  $\frac{1}{2}$  gal. 5 lbs.; 1 gal. 10 lbs.



### EGG-O-HATCH and EGG-O-LATUM

#### DON'T GET THE TWO NAMES MIXED

Egg-o-hatch is a dry powder. It is mixed with water and the resulting liquid is applied to eggs two or three times during the 21 days of incubation. It is a liquid that does three things—supplies oxygen for the growing chicks; absorbs carbon dioxide given off; makes more brittle and porous the shell of the egg.

Price 50c postpaid. Will treat 600 eggs.

PRICES ON THIS PAGE F. O. B. PORTLAND



Egg-o-latum is a white cerate. Rubbed over the shell of the egg it seals every pore so no air, moisture, odors, or germs can get in. Preserves the egg in all its original freshness. The application of Egg-o-latum is easily and quickly done. A dozen a minute and they will keep a year. Fresh eggs must be used, unfertilized ones are best. One pkg. treats 50 doz. eggs. Price 50c postpaid



## Feeding and Care of Newly Hatched Chicks

Newly hatched chicks, whether incubator or henhatched, should not be fed before removing from the incubator or nest and they must not be removed until the chicks are all hatched and dried. This may be only a few hours or may take a day or two from start to finish. In the meantime, nature provides all the food the chicks need for the first two or three days of their life. Earlier feeding is to be avoided as it frequently causes indigestion. In the case of incubator chicks, it is customary to remove them any time from 24 to 48 hours after hatching. Place them in a brooder already warmed to a temperature of 95 degrees. The assembled chicks will raise this temperature to about 99 or 100 degrees which is right for the first few days. Gradually reduce so that in two weeks it is 90 and in three weeks 80. From then on 80 to 75 degrees is sufficient. This temperature refers to the heat in the hover and not the brooder outside of the hover. If you have a Buckeye Brooder Stove no attention to the temperature is necessary.

Always keep fine litter or chaff on the floor of the brooder. This should be changed when soiled. Also a plentiful supply of fine hard grit. Chick food can be fed on a board or shingle or in a feeding trough. Hard boiled eggs finely chopped, shells and all, mixed with stale bread provide a splendid meal for a starter. A little Diamond Chick Food scattered in the litter induces exercise and aids digestion. Being a normally balanced ration, it is therefore safer to feed than the home prepared foods. An active chick is a healthy chick.

Feed four or five times a day for the first few days unless the food is in a trough which does away with the need of frequent attention. Both methods have their advocates. The principal thing is to keep the chicks busy scratching. Diamond Chick Food is properly balanced to supply every need of the growing chicks, frame, flesh and feathers. Always ready for immediate use. Saves time and furnishes everything essential for the welfare of the chicks without waste. They will eat it all to the very last morsel.

## Scientific Poultry Feeding for Eggs

Chemical analysis shows that an egg is composed of the following ingredients:

Water.....	67 per cent	Lime.....	10 per cent
Albumen.....	12 per cent	Ash.....	2 per cent
Fat.....			9 per cent

Close observation shows Albumen Fat and Lime are the ingredients we must provide for. Albumen is composed largely of nitrogen. Wheat contains the largest amount of nitrogen in grains. Oats are next. Blood is nearly all nitrogen. Corn is a fat producer and contains heat, consequently to produce eggs at a rapid rate you must supply the right material properly proportioned.

To parties wishing egg maker ready prepared we recommend our "Diamond Egg Food," containing all the necessary ingredients in exact proportion to give the maximum egg production. It should be fed with other food, either moist or dry, and is unsurpassed by any egg food on the market.

## Shell—An Egg Necessity

Did you ever stop to think it would be an impossibility for a hen to produce an egg without carbonate of lime to make the shell, to hold it together during formation and add strength thereafter?

Carbonate of lime is readily available from shells grown in salt water.

When fowls are kept on hard or frozen ground, we find small eggs and occasionally a soft-shelled egg is laid. They never fully materialize for the reason there is nothing to hold them together.

Remember, if you want eggs, keep oyster shell constantly before them and feed our "Diamond Egg Food." There is nothing better. Contains all ingredients for making the inside of the egg, acts as a tonic to the fowl, and when used in connection with shell-making material results are certain.

## Green Foods

The value of green food for poultry lies in the fact that it makes the foods more digestible, also it contains in a soluble form certain mineral salts that the fowls need and should always form a part of the daily bill of fare. There is little doubt that clover is the best green food. Second crop clover should be cut just as it is coming into bloom and very carefully cured. For hens, it should be cut into very short lengths. May be fed alone at noon or mixed in the morning mash with boiling water. If clover is not obtainable, cabbage, kale or turnips may take its place but should be fed raw.

## To Positively Stop Hens and Dogs Eating Eggs

Break a small hole at end of egg, shake out about one-fourth of the contents, and then pour in one-half teaspoonful of extract of Gentian. Shake the egg well and stop the hole with paraffin, placing it in the nest where they can get it. Gentian is a very bitter tonic and the taste always stays with them. It is harmless, and one which forever satisfies the taste for eggs.

## Incubation Table

This table is correct if temperature of Incubator is kept correct throughout the hatch, but some variation would occur, if for instance the Incubator ran too low, chicks would be a day or two later.

Eggs—Geese—30 days.	Eggs—Partridges—24 days.
Eggs—Turkeys—28 days.	Eggs—Pheasants—25 days.
Eggs—Chickens—21 days.	Eggs—Guinea Hens—25 days.
Eggs—Ducks—28 days.	

To make a one per cent solution or one part to a hundred is as follows:

1/2 teaspoonful to one tumbler of water. 1 teaspoonful to one pint of water.  
8 teaspoonsful to one gallon of water.

# The National CREAM SEPARATOR

WHEN YOU BUY A SEPARATOR you want the one that skims the closest, summer or winter; that will handle milk from "stripper" cows; that will produce cream of any desired density.

A durable machine that will give everlasting satisfaction and service, at the minimum cost of up-keep; a separator that is mechanically perfect, having the fewest parts, the greatest capacity for its size, the quickest, cleanest and easiest running.

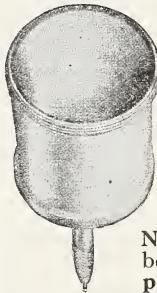
The National combines all the above and for 24 years has stood the test of time, maintaining its position against all competitors—and many of those first National Separators are in daily use after 20 years of service.



National  
No. 26  
Separates  
Twelve  
Gallons  
in Ten  
Minutes

Ten to  
Thirty  
Cows

We offer  
the  
National  
in two  
sizes  
No. 24  
and  
No. 26



Note the simple bowl only three parts inside to wash.



Bowl Shell      Feed Tube      Inner Top Cone



steel, extremely light in weight and large enough for any woman to put her arm through.

A child can clean it in three minutes without risk of breaking or harming it. Just wipe off with a wet rag inside and out, and rinse in hot water and the job is done.

**Capacity**—The National is not over-rated but will make perfect separation of the amount of milk claimed under ordinary conditions and have ample reserve capacity. The separator that has to be crowded to handle its advertised capacity will not skim perfectly.

It should be especially noted that no mechanical contrivances are required between the "Vortespoon" and the feed tube; the globules of butter fat are therefore allowed to remain in a whole condition, the highest grade from which the finest butter is made, commanding the highest price.

The National Bowl flushes clean after using; not a particle of cream is lost and it is the simplest and easiest bowl to handle and clean.

The Upper Bearing is of phospher bronze and flexible, maintaining its equilibrium without the slightest vibration; the lower bearing rests on a single cushioned ball bearing.

Driving mechanism of finest steel, with worm wheel of phospher bronze; all parts machined to one-thousandth part of an inch.

Special side ball bearings of exclusive design help to make the National the easiest running Separator. The gear shield protects the gears. The oiling system insures an ample supply of fresh oil always in view and under control of the operator.

Power attachments can be furnished for all sizes of National Separators; they are easily and quickly adjusted to fit any engine or shaft.

## National Catalog

40 pages illustrated, gives complete and interesting facts about National Separators. We will gladly mail you a copy on request

**National** Separators for immediate delivery in the following sizes, and all prices are F. O. B. Portland.

	Hourly Capacity	Cows	Shipping Weight	Price
No. 24	500 lbs.	6 to 12	167 lbs.	\$55.00
No. 26	600 lbs.	10 to 30	170 lbs.	65.00

■ NATIONAL SEPARATORS are fully guaranteed to be as represented and as perfect as human skill can make them. All parts showing defective material or workmanship will be cheerfully replaced. Read the Guarantee in the special NATIONAL Catalog.

# SHARPLES CREAM SEPARATORS

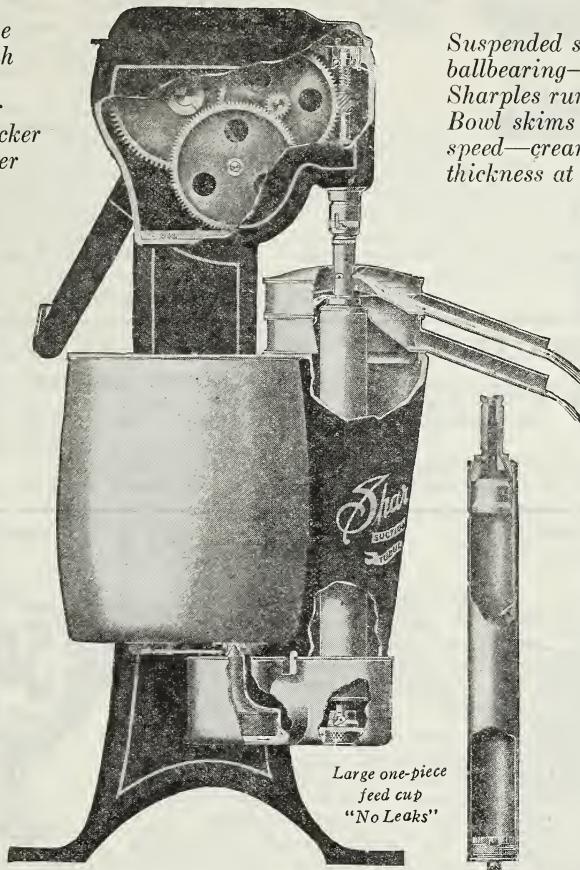
WE are Northwestern Agents for the splendid products of the Sharples Co. Their new "Suction Feed" Separators are the only Separators that will skim clean at any speed and this feature alone guarantees one-fifth more cream than can be saved by any other separator.

*Oil Tight Gear Case  
Oil Once a Month*

*The only Separator  
which skims quicker  
when turned faster  
No need to watch  
your speed*

*"Suction Feed"  
sucks milk  
into Bowl  
in proportion  
to speed—result  
clean skim  
at any speed*

*The only  
Separator  
with knee low  
Supply Tank*



*Suspended single frictionless  
ballbearing—that's why the  
Sharples runs easier.  
Bowl skims clean at low  
speed—cream stays same  
thickness at any speed*

*Patented  
Tubular  
Bowl  
creates  
double  
skimming  
force*

*The  
Simple  
Tube  
has no  
discs  
to wash*

YOU ARE FAMILIAR with the well-known advantages of the regular Tubular Separator. You know the simple, tube-shaped bowl, with its enormous skimming force (double that of any other machine made)—no discs, easily cleaned, almost indestructible. You know the advantages of having all the gears solidly encased and running in oil. You know how the bowl hangs from a single ball-bearing, spinning naturally, instead of being supported from below.

*The "New Sharples" with all these advantages needs only its new features described here of which the most important is the*

## SUCTION FEED

The milk is drawn up through the bottom of the bowl by the suction force of the revolving bowl—and the greater the speed the faster the separation—*But at all speeds the New Sharples Skims Clean*—and the cream is of a uniform density—just what you set the cream screw for—and—you get all the cream at any speed—fast or slow—and the faster you turn the greater the capacity. *This is true of no other separator.*

**SHARPLES NEW SUCTION FEED SEPARATORS**—Retail prices F. O. B. Portland, Oregon. Effective December 15th, 1921. Subject to FACTORY change.

	Capacity	Cash	Terms		Capacity	Cash	Terms
No. 1-C	200 lbs.	\$46.50	\$50.90	No. 4-B	500 lbs.	\$ 80.85	\$ 88.35
No. 1-B	200 lbs.	54.25	59.25	No. 6-B	700 lbs.	95.85	104.85
No. 2-B	300 lbs.	59.25	64.75	No. 9-B	900 lbs.	115.85	125.85
No. 3-B	400 lbs.	69.25	75.75	10-Turbine	1000 lbs.	156.40	171.40

**EQUIPMENT**—Speed Governor Pulley, complete for power drive. . . . . \$15.00  
Motor and equipment assembled for any size dairy machine, either

A. C. or D. C. Voltage 110 or 200. . . . . 50.00

**TERMS**—Send references, state amount willing to pay down and payments desired.



**KOW-KARE** Makes Poor Cows Good  
—Good Cows Better, and  
Makes More Money for Cow Owners.

**"THE HOME COW DOCTOR"**

A handbook for cow owners, describing diseases that affect a cow's productivity and telling how to prevent and cure them in a single cow or a whole herd. **Free on request.**

**KOW-KARE** (originally Kow Kure) is different from anything ever discovered for cow troubles. It is the only cow medicine that is strictly for cows only. It is not a stock food, but a specific remedy especially for cow diseases, such as Barrenness, Scours, Milk Fever, Caked Udder, Bloating, Red Water, Swelling of Bag, etc. It prevents abortion and removes retained after-birth. It tones up the system, renews vitality, restores appetite to cows that are "off feed," and keeps them healthy. Makes poor cows good, good cows better, and makes more money for cow owners. It increases the milk flow, and enables the cows to produce strong, vigorous calves. It's the dairyman's gold mine, and a sure profit-payer.

Medium cans, Price 70c; Large cans, \$1.40

**AMERICAN DAIRY ASSOCIATION REMEDIES**

**BAG BALM**—A soothing, penetrating ointment for all afflictions of the bag.

65c packages—wt.  $\frac{1}{2}$  lb.

**GRANGE GARGET CURE**—An unsurpassed and positive cure. 70c cans—wt. 2 lbs.

**HORSE COMFORT**—For wire cuts and all flesh wounds.

35c bottles wt. 1 lb.—65c bottles wt. 2 lbs.

**AMERICAN HORSE TONIC**—A general improver for horses.

35c boxes wt. 1 lb.—70c boxes wt. 2 lbs.

Increases Milk Production  
20 Per Cent

**SO-BOS-SO**

Protects Stock From the  
Torture of Flies



YOUR cows will give more milk—your horse will do more work on less feed if protected by So-Bos-So at a cost of less than  $\frac{1}{2}$  cent a head per day.

Horses hitched or harnessed will stand quietly or work in comfort if protected by So-Bos-So, and many runaways will be avoided. So-Bos-So is a boon to blacksmiths.

So-Bos-So is easily and quickly applied with a hand sprayer, cloth or sponge and is the only really efficient "fly bouncer" that we have ever seen.

*Be sure to look for the trade-mark as there are many preparations offered that will prove disappointing.*

<b>Prices</b>	Gallon cans, wt. 10 lbs., each	\$1.50
	Half-gallon cans, wt. 5 lbs., each	.90c
	Quart cans, wt. 3 lbs., each	.60c



**"MEDICO"** Tonic and Worm Destroyer

80% of all stock losses are due to worms—only healthy animals respond to feeding; wormy stock will not thrive—your money is fattening worms  
MEDICO DESTROYS the dreaded intestine and stomach worms and

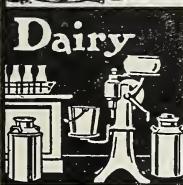
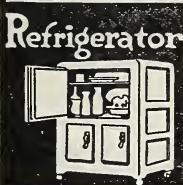
expels them from the system, tones up the digestive tract and keeps them away. Horses, cattle, sheep, hogs, all must have salt. A package of Medico mixed with 70 pounds of salt makes the most perfect medicated salt tonic and worm destroyer possible to obtain, and at a fraction of the cost of such preparations. Keep this salt before your stock, they will use the proper amount to keep them healthy.

PRICE: 5-lb. pkg. Mail. wt. 6 lbs. \$1.85



*Be sure this Trade Mark is  
on the package*

5 lb. pkg. to 70 lbs. salt



## Laundry

## Sick-room

## Refrigerator

## Garbage Can

## Dairy



## DISINFECTANT—DEODORANT—ANTISEPTIC NOT A POISON

**Powerful**—By Government method test B-K has over ten times greater germ-killing strength than carbolic acid. Much stronger than coal tar disinfectants—much safer.

**Clean**—B-K is colorless, leaves no stain on floors or walls.

**Deodorant**—B-K destroys foul odors—leaves no odor of itself. Does not soil animal's hair.

**Safe**—B-K contains no poison, acid nor oil.

**Cheap to use**—B-K is so much stronger than other disinfectants that more water is used. It goes farther.

**SAFE—CLEAN—POWERFUL  
SAVES TIME—SAVES LABOR**

"BACILI-KIL" is a combination of hypochlorites stabilized by electrolysis. In our limited space, we cannot tell you all of its many uses.

*Ask us to send you Special Booklets*

*Sold on an Absolute Guarantee to  
Give Satisfaction or money refunded.*

Prices, boxed for shipment, F. O. B. Portland,  
1-gal. jug \$3.00, 5-gal. carboy \$12.50.

*Dilutes 1 oz. to the gallon and more according to purpose.*

## Milking Machines



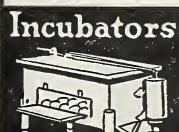
## Spray Barns and Stock



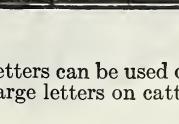
## Save Every Calf



## Hog Sanitation



## Incubators



## Markers for Cattle, Sheep and Hogs

Metal Ear Labels and Ideal Ear Buttons are satisfactory and easily applied marks of identification that are indispensable to breeders and stockmen. Your name and address on one side, numbers on the other.

**oval ear punches**—Cattle size; wt. 1 1/4 lb. each, \$1.75; Sheep and Hog size \$1.40. Postage 10c each.



Metal Band  
Ear Marker  
and Aluminum  
Ear Button



Oval Ear  
Punch  
also used  
to attach  
Metal  
Band Ear  
Markers

Punch  
and Pliers  
for Alum-  
inum Ear  
Buttons

Not more than ten large letters can be used on the hog and sheep size; 15 large letters on cattle size or 22 small ones.

Prices	Two sizes	Sheep and Hog	Cattle
100	with name and number.....	\$1.75	\$2.25
50	with name and number.....	1.25	1.50
25	with name and number.....	.85	.90
100	with name only, or No. only..	1.25	1.75
50	with name only, or No. only..	1.00	1.25
25	with name only, or No. only..	.75	.85

Weight for mailing, Cattle size, 2 1/2 lbs. per 100; Sheep size, 1 lb. per 100.

### IDEAL EAR BUTTONS

### Pure Aluminum Hardened

Medium size, suits all animals, clinches tight cannot come out; double strength. Name and address on top side; number on bottom, or number and name can both appear on one side if not more than 18 letters and figures; if more than 18 both sides can be used to the limit of 30 letters and figures. Easily attached with special punch and pliers.

25, wt. 3 oz....	\$1.35	500, wt. 4 lbs.	\$16.50
50, wt. 1/4 lb....	2.00	1000, wt. 6 lbs.	\$30.00
100, wt. 3/4 lb....	3.75		

Punch and Pliers, wt. 1 lb.....\$1.50



# PET STOCK



## ADD CHEER TO THE HOME WITH A CANARY

We offer your choice of canaries at very moderate prices.

Yellow Singer.....	Males, \$6.00 to \$7.00, females, \$2.00
Deep Yellow.....	Males, 7.50 to 10.00, females, 2.50
Mottled.....	Males, 5.00 to 7.50, females, 1.50
Crested.....	Males, 7.00 to 8.00, females, 2.50

WRITE for prices on ROLLERS both male and female.

## BIRD CAGES



The rattan cage shown in the cut, is a very charming one and serviceable, at the moderate price of \$3.00

Write us your wants in other styles.

## BIRD SEED AND REMEDIES

P.S.Co's. Best Mixed Pkg. prepaid 20c pkg. 10 pkgs. \$1.75.	P. S. Co.'s Bird Gravel. Pkg. 15c
Not for planting. Special Prices in Quantity	Cuttle Bone. Each 10c; Doz. 75c.
P. S. Co.'s Best Mixed. Per lb. 20c 10 lb. 1.75	Bird Manna. Each 20c; doz. \$2.50
Canary, best re-cleaned Per lb. 20c 10 lb. 1.75	Bird Bitter, Bottle, Each 30c;
Hemp..... Per lb. 20c 10 lb. 1.75	Parrot Food. Per lb. 30c; 10 lb. \$2.50
Millet..... Per lb. 20c 10 lb. 1.75	
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		Weight Limit 501bs.

 **WAR TAX** On Packages requiring 25c Postage add 1c Tax; on 26c to 50c add 2c Tax; over 50c add 1c for every 25c or Fraction thereof. 

The 8th zone rate applies to **ALASKA, HAWAII, the PHILIPPINES and SHANGHAI, CHINA**, with **20 lb. weight limit**—To **CANADA, MEXICO, CUBA and PANAMA**, when over **4 oz.** and not exceeding **4 lbs. 6 oz.** **20 lbs.** can be sent to **MEXICO and PANAMA** as Foreign Parcel Post.

**"DIAMOND QUALITY"**

## FERTILIZERS

Ask for our Special Fertilizer Catalog, containing valuable information on the use and application of Fertilizer.

The base of "Diamond" Fertilizers is Bone Meal and Bone Tankage, to which is added the necessary Chemical Elements. No sand, earth or other cheap filler is used. They are of guaranteed analysis, conforming to the standards required by the State Laws.

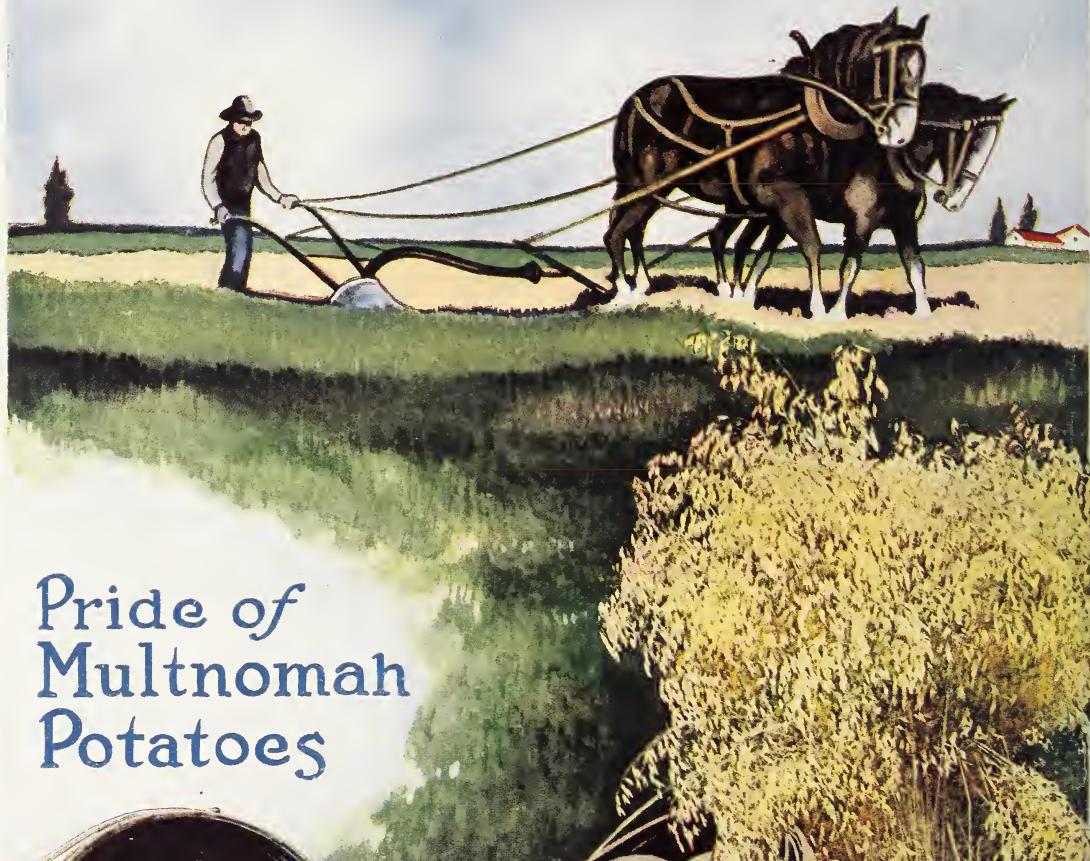


	POUNDS PER ACRE	FERTILIZER TO USE	WHEN TO APPLY
Apples	400 to 600	Fruit	Fall or early spring.
Asparagus	300 to 600	Vegetable	Spring.
	100 to 200	Nitrate of Soda	Fall or Winter preferred, or early spring.
Berry Bushes	400 to 800	Fruit	Fall or Winter preferred, or early spring.
Fruit trees and bushes	400 to 800	Fruit	Fall or Winter preferred, or early spring.
Flower beds	See Plants, etc.	Fruit	Fall or early spring.
Grapes	400 to 800	Lawn	Apply fall or spring, broadcast.
Grass for lawns	400 to 800	"Diamond" Plant Food	Directions on each package.
House plants		Vegetable	
Nursery stock	325 to 650		Early Spring.
Plants, flowering out-door	A teaspoonful to a plant or broadcast		Worked in the top soil when cultivating or making beds.
Roses, etc.	1/2 to 1 lb. per plant	Lawn	Fall, winter or spring.
Shrubs, trees, etc.	1/2 to 31 lbs. per plant	Lawn	Fall, winter or spring.

 For DIAMOND FERTILIZERS See Index 



# "Diamond Quality" SEED OATS



Pride of  
Multnomah  
Potatoes

